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TOWARDS A CASE GRAMMAR OF TWI

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UNIVERSITY OF EDINBURGH

1972

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SUMMARY

This thesis is primarily concerned with a description of the 'transitivity' systems of simple sentences in the Kwahu dialect of Akan (Twi-Fante). The term 'transitivity' is borrowed from Halliday (1967; 1970). Under this heading three separate but interlocking grammatical systems are discussed, which are referred to as case, aspect and process. Process refers to the type of state or activity described in the sentence; whether it is 'inchoative', 'descriptive' etc. Aspect indicates what Hockett describes as the 'temporal distribution or contour of an event' (1958:237); the main concern of this work is only the primary aspectual distinction drawn between stative and active sentences. Case refers to the functional role of the various noun phrases associated with the process concerned: its scope is much the same as that discussed by Fillmore (1968) or Anderson (1971).

ACKNOWLEDGEMENTS

Most of the data on which this study is based was gathered from informants in Edinburgh. I would like to acknowledge the help of Mr. and Mrs. K. Agyakwa, and Mr. and Mrs. M. Sarpong. Mrs. Sarpong was kind enough to check all the examples used in this work. A small grant from the Moray Fund helped to defray the expenses of my informants.

In 1968 the Centre of African Studies generously financed a field trip to Ghana. Dr. J. Stewart, of the Institute of African Studies, University of Ghana, arranged for me to spend some six weeks among the Asante speaking community in Koforidua. In Koforidua I was extremely fortunate to be under the patronage of Mr. I. Debrah, who, as landlord and friend, opened many doors to me; and to have the services of Mr. K. Boakyi as an informant.

Finally I would like to acknowledge with gratitude the instruction and encouragement of my supervisor, Professor John Lyons.

CHAPTER ONE: INTRODUCTION

I.1 The Language:

The language described in this work is a dialect of Akan, the principal language of Central and Southern Ghana spoken "between the rivers Tano and Volta" (Westermann and Bryan, 1952:79). It is "the mother tongue of the majority of the population of Ghana (3 million speakers ... another million regularly use it)" (Ellis and Boadi, 1969:5). Akan is now the officially recognised name for the language, both by the Government of Ghana and in recent scholarly literature (cf. Stewart, 1971:205ff). In older literature (cf. Christaller, 1875; Westermann and Bryan, 1952; Greenberg, 1963a,b) the language is generally referred to as Twi-Fante or as Twi. It is classified as a member of the Volta-Comoe group of languages (in older literature the Volta-Comoe group is itself referred to as 'Akan', but "linguists and historians at the University of Ghana agreed in 1966 to replace Akan with Volta-Comoe as the name of the group in order to avoid confusion with the Akan (Twi-Fante) language" (Stewart, 1971:207). Volta-Comoe itself is classified as a subgroup of the Kwa languages spoken along the West African coast from Liberia in the West to the Niger delta in the east (cf. Westermann and Bryan, 1952; Greenberg, 1963a,b; Stewart, 1966a, 1971).

The Akan (Twi-Fante) 'dialect cluster' is said by Westermann and Bryan to consist of four main dialects: "Akwapem ... spoken in the south east of the Twi area. Akem ... spoken west and north of Akwapem. Asante ... spoken

north west of Akem (and) Fante ... spoken on the coast" (1952:79). Historically Akwapem has had a certain pre-eminence, since it was for many years the written literary standard, used extensively for Bible translation and other religious works. Furthermore "in the early days of formal education in the Kwa area the policy in some schools was to use the local language as the medium of instruction throughout, and this called for the preparation of grammars and dictionaries of the languages concerned; in the early Basel Mission schools in the Akan area, for instance, the policy was to use Akan throughout, and J.G. Christaller, a linguist in the service of the Basel Mission, produced a grammar of the language in 1875 and a dictionary in 1881" (Stewart, 1971:180). Akwapem was the dialect on which Christallers works were based, and they remain the most comprehensive works on any Akan dialect yet published. Fante is more different from the other dialects than the other dialects are from each other, and indeed in everyday speech people still talk of Twi and Fante as though they were separate languages. The most immediately striking differences between Fante and the other dialects are phonological, and an orthography was developed for Fante different from that used for Akwapem. There is a certain amount of literature in Fante, including a translation of the Bible, various educational publications and several grammars (cf. Balmer and Grant, 1942).

The dialect described here is principally that of informants who come from the Nkawkaw area, some 65 miles east of Kumase. They refer to their own language as Twi,

and specifically as Kwahu Twii, and all the examples included have kindly been checked for me by Mrs. G. Sarpong from Abetifi, a town some ten miles to the north of Nkawkaw.¹ Kwahu may be regarded as a 'sub-dialect' of Asante. Throughout this work I shall refer to the language described as Twi, rather than Akan: partly because this is the name which my informants give to their own language, and partly because there is no exemplification from other dialects except Kwahu, apart from occasional quotations from Christaller where the dialect of exemplification is Akwapem.

I.2 The orthographic representation:

All the examples quoted are written in a modified form of the official orthography. Orthographic conventions are described in "The Writing of Akan" and "Twi Nsem Nkorewbea" (Two Spelling Book)". The modifications introduced here (e.g., the representation of vowel harmony in verbal affixes) are designed to help the reader who speaks no Twi to gain some impression of the pronunciation. To this end, the notes which follow are an attempt to indicate how examples may be pronounced: they do not pretend to form a 'phonology'. For a discussion of the phonology see works by Christaller, Boadi, Stewart, Schachter and Fromkin, Dolphyne etc. recorded in the bibliography.

1. As recorded in the Acknowledgements, I was also fortunate in being able to spend some time in Koforidua, among the Asante speaking community there. All data collected there has been checked by Mrs. Sarpong, and where necessary emended.

All the examples quoted will be glossed in English. In addition a morpheme-by-morpheme gloss will be provided. In general Twi examples will not be morphemically analysed, but where they are, boundaries between morphs will be marked + :

ɔ+re+kɔ Kumase (he+progressive+go Kumase: he is going to Kumase)

The morpheme-by-morpheme English gloss will, as illustrated, follow the morphological pattern of Twi, and will be followed by a more idiomatic gloss in English.

In general the segmentation of segmental morphs is fairly straightforward: problems do, however, arise with suprasegmental, tonal, morphs, and these cannot, in general, be indicated by the method indicated above. Zero segmental morphs, 'deleted' and 'understood' elements also pose problems. In general, where it is felt that it will be helpful such elements are represented in brackets:

wu+be+num (you+future+suck (it): you will suck it).

The practice of representing zero morphs in brackets will always be followed in the case of verbal morphs: thus compare the habitual (which has a zero morph) with the progressive (which has an overt morph):

ɔ+kɔ (he+(habitual)+go: he goes)

ɔ+re+kɔ (he+progressive+go: he is going).

Where English requires two words to supply the sense of a single Twi item this will be represented by hyphenating the English morpheme-by-morpheme gloss:

ɔ+ɔ+be+tu (he+progressive+ingressive+pull-out (it): he is going to pull it out).

It will be clear that the morphemic analyses offered are somewhat ad hoc. They are offered not as part of a systematic description of the morphology of the language, but as an aid to the non-Twi-speaking reader.

I.2.1 Consonants:

The orthography makes use of all the roman consonant graphs except c, j, l, q, v, x and z: though some of these are used in borrowed words. There are also a number of digraphs which represent unitary consonant 'phonemes': these are not to be regarded as either consonant clusters or sequences. In general the consonant graphs are a reasonable guide to pronunciation: in many respects they may be thought of as giving a 'broad' transcription.¹ The orthographic consonants may be charted as follows:

| | stop | | | voiced | | | fricative | | | nasal | | contin- | | flap | |
|---------|--------|---|----|--------|---|----|-----------|---|----|-------|---|---------|---|------|--|
| | voice- | | | | | | voice- | | | | | ant | | | |
| | less | | | | | | less | | | | | | | | |
| | p | t | k | b | d | g | f | s | h | m | n | y | w | r | |
| palatal | | | ky | | | gy | | | hy | | | ny | | | |
| labial | | | kw | | | | | | hw | | | nw | | | |
| labio- | | | | | | | | | | | | | | | |
| palatal | | | tw | | | dw | | | hw | | | nw | w | | |

1. It is difficult to discuss the extent to which the orthography may be regarded as 'phonemic' without a lengthy discussion (which would be out of place here) of the 'level' at which phonemic oppositions are thought to hold. There are certain obvious 'skewnesses' about the consonant system - which are brought out by the chart in the text - which make it possible to argue for more or fewer phonemes. Schachter and Fromkin, working within a 'generative' phonological model recognise only 11 consonantal 'systematic phonemes' (1968:26); Schachter in an earlier and more conventionally 'phonemic' description recognises 29 (1962:27-9) and Ladefoged (1964:52) offers 23. In fact, if phonemes are established on the basis of minimal pairs, and if minimal pairs may include sentential as well as word environments even more contrasts may be found owing to the nature of assimilation processes between words.

The extent to which the orthographic consonants noted above are phonemic (and their rough phonetic value) may be judged by the following chart. The symbols used are taken from Ladefoged (1964:52), but are rearranged to follow the chart above; items in brackets do not appear in Ladefoged:

| | | | | | | | | | | | | | |
|---|---|----------------|---|---|----------------|---|---|-------------------|---|---|-------------------|---|---|
| p | t | k | b | d | g | f | s | h | ɰ | n | j | w | r |
| | | c | | | ɟ | | | ɸ | | | ɲ | | |
| | | k ^w | | | | | | (h ^w) | | | (ɲ ^w) | | |
| | | cɥ | | | ɟ ^u | | | ɸ ^w | | | (ɲ ^u) | u | |

The somewhat peculiar layout is designed to reflect some of the distributional peculiarities of the consonant system, and in particular the 'skewness' in the system associated with the velar/palatal consonants. This may be exemplified by considering the voiceless stops. In monosyllabic stems p and t can occur before back, central and front vowels; the distribution of k, ky, kw and tw however may be inferred from the following:

| | | | | | |
|-----|-----------|------|----------|----|------------|
| pi | (thicken) | pa | (choose) | pu | (vomit) |
| -- | | ka | (bite) | ku | (pull out) |
| kyi | (hate) | -- | | -- | |
| -- | | okwa | (only) | -- | |
| twi | (push) | twa | (cut) | -- | |

In disyllabic stems the situation is slightly different since here k will precede front vowels, in particular when the second syllable has s or t initially (kisa 'turn'; kita 'hold'), and reduplicated stems will yield minimal pairs (kenkan 'read'; kyenkyen 'harden').¹

1. The other velar/palatals are not identical in distribution: but show similar asymmetries. A brief but informative discussion of these may be found in the introduction to Christaller's Dictionary (page xvii), where he also discusses dialectal differences.

Stem-initially, phonemic contrasts may be found between all the nasal consonants noted. There are also a number of morphemes that are realised as nasals homorganic with the following consonant - e.g. one nominal prefix and the negative morpheme. When convenient we will use the 'archiphoneme' N to represent a homorganic nasal. Phonetically N is realised as homorganic with the following consonant; orthographic N is represented by m before p, f and ɱ (i.e. 'labial' consonants) and n elsewhere:

ɔfa - ɔmfa (he takes it; he doesn't take it)
 ɔpera - ɔmpera (he sweeps it; he doesn't sweep it)
 ɔko - ɔnko (he goes; he doesn't go)
 ɔtwa - ɔntwa (he cuts it; he doesn't cut it).

Voiced oral consonants preceded by nasal consonants are themselves nasalised; this is represented in the orthography:

ɔha - ɔmma (he comes; he doesn't come)

This may lead to the falling together of negative forms of different lexical items:

| | | | |
|--------|-------------|---------|---------------|
| ɔnwene | (he weaves) | | weave) |
| | | ɔnnwene | (he doesn't) |
| ɔdwene | (he thinks) | | think) . |

Those consonants labelled as palatal or labiopatal have the peculiarity that when they precede the vowel a they 'raise' the preceding vowel. It may be noted that y, although 'palatal' does not operate in this system:¹

The distribution of r is also somewhat restricted. It

1. For a full discussion of this cf. Boadi, 1963; Stewart, 1967. It is also referred to again in I.2.2 below.

is never stem initial (except perhaps in the unique case of the emphatic particle ara: but this, while it is orthographically usually a 'word', might be considered as a 'bound' element). r is frequently found as the second consonant in a stem: when this is the case the official orthography often writes Cr (e.g. abofra 'child' bra 'come'). In such cases the vowel is always 'short', but we shall consistently write this vowel in. It can be tone-bearing. Thus we shall write abofora; bera etc.

There are no consonant clusters. The only possible consonant sequences are nasal plus consonant: these are always regarded as disyllabic, for tonal and other reasons. Sequences of two nasal consonants (e.g. amma 'he doesn't come') are regarded as disyllabic also.

The only consonants which can be word or syllable final are m and n (in Fante r and in Akuapem w may also be syllable final).

I.2.2 Vowels:

There are ten simple oral vowel phonemes "which on the basis of their position on the cardinal vowel figure can be represented as follows: ɪ, ɛ, a, ɔ, ɔ̃, i, e, ɐ, o, u" (Stewart, 1967:185). Implicit in this representation and ordering is the fact that these ten vowels can be regarded as being in two series which we may refer to as:

| | | | | | |
|---------------------|---|---|---|---|----|
| basic | ɪ | ɛ | a | ɔ | ɔ̃ |
| raised ¹ | i | e | ə | o | u |

These two series are established on the basis of vowel harmony within the word. If, for the moment, we disregard the two central vowels (a and ə) we may say that "in utterances consisting of a one-morpheme verb stem with or without prefixes ... the vowels are either all from the set ɪ, ɔ̃, ɛ, ɔ or all from the set i, u, e, o, e.g.:

wabenam (you will drink it) wubenum (you will suck it)
 ɔɔbeta (it (sc. the hen) is going to lay) ɔobetɔ (he is going to pull it out)

... The vowels of the set i, u, e, o are accordingly analysable as the corresponding vowels of the set ɪ, ɔ̃, ɛ, ɔ plus a prosodic feature ... which for the time being will be termed raising" (Stewart, 1967:196).

It can be shown that the vowel harmony apparent in these examples is 'regressive': i.e. the 'controlling' vowel is the final vowel in the word. For example, the cases cited above may be morphemically analysed as:

wɔ̃+be+nɔ̃m (you+future+drink (it): you will drink it)
 wu+be+num (you+future+suck (it): you will suck it)
 ɔ+ɔ+be+tɔ̃ (it+progressive+ingressive+lay: it is going to lay)
 ɔ+ɔ+be+tu (he+progressive+ingressive+pull-out (it): he is going to pull it out)

-
1. The use of the term 'raised' for this series of vowels must not be taken to have any necessary phonetic correlation with 'tongue raising' and the like. For an illuminating discussion of the phonetics of vowel harmony in Twi cf. Stewart (1967), where there is also a discussion of the various different, and frequently confused and confusing, terminology that has been used of these two series. For a discussion of vowel harmony in Kwa languages in general, and Akan in particular cf. Stewart (1971).

In each case the final morph is the verb stem, and all the prefixes are 'grammatical' affixes. From this segmentation it will be apparent that the precise vowel quality of the prefix is predictable from the vowel in the stem: i.e. that in the grammatical prefixes there is no contrast between ə and u; ə and o. This contrast is, however, relevant for the stem (cf. nəm 'drink' and num 'suck'). It is possible to find minimal pairs to establish the phonemic status of each of the eight non central vowels in stems. A phonemic description like that in Schachter (1959) and Redden and Owusu (1963) indeed establishes each of these elements as a separate phoneme. A prosodic account of Twi phonology abstracts the heightening as a 'prosody' - this is implicit in the quotation from Stewart above; and cf. Boadi (1963); Dolphyne (1965). In terms of a generative phonology Schachter and Fromkin (1968) refer to a set of 'archisegments' (cf. page 29) E, I, O and U. For our purposes it will be convenient to make reference to such 'archisegments' - thus with reference to the examples above we could refer to the future morph bE-; the 'second person singular pronoun' wU-; and the 'third person singular pronoun' o-.

The central vowels a and ə somewhat complicate this relatively straightforward picture. "In utterances consisting of a one morpheme verb stem with or without prefixes and containing a central vowel ... the vowels of any sequence which does not contain a central vowel are either all unraised or all raised. Where, however, the utterance contains two such sequences separated by a central vowel, it is possible for

one of the sequences to have unraised vowels and the other to have raised vowels, e.g.:

wa+be+petiri (you+future+slip: you will slip)

mi+ko+keri (I+(habitual)+ingressive+weigh (it): I go and weigh it)

o+o+be+dwar (he+progressive+ingressive+wash: he is going to wash)

mi+i+hwan (I+progressive+peel (it): I am peeling it).

(Stewart, 1967:187: I have altered the examples by morphemically analysing them, underlining the raised vowel sequences and removing tone marks).

In the case of the first two examples it will be seen that a central vowel is raised by a following raised vowel, but that this, as it were, breaks the vowel harmony sequence. In the last two examples we see a palatalised consonant (dw; hw) followed by a which has the effect of raising vowels ~~with~~ which precede it.¹ A further complication is added by the fact that, except in a few doubtful cases (cf. Schachter, 1962:17; Stewart, 1967:fn.2), there is no minimal contrast in monomorphemic stems between a and e: consequently, as Stewart remarks (1967:187) "the selection of a or e is ... wholly determined by the context in the type of utterance under consideration". However, in spite of the fact that it is difficult to establish a phonemic contrast between a and e it is convenient to generalise statements of vowel harmony

-
1. The palatalised consonants apparently only raise preceding vowels if they are followed by a. Thus observe:
 o+twa (he+(habitual)+cut (it): he cuts it)
 o+twen (he+(habitual)+drag (it): he drags it)
 For details cf. Boadi, 1963.

etc. and consequently a and e are introduced into the list of vowels at the head of this section.¹ Similarly it is convenient to be able to refer to the 'archisegment' A (as in the perfect morph A-).

All these vowels may be nasalised, though phonemic contrasts cannot be found for ɪ and ʊ. The other nasal vowels may occur in positions where they are in contrast with oral vowels (compare fa 'take' fã 'to be hoarse'; so 'light' sõ 'be fat' etc.) or they may occur as conditioned variants of the corresponding oral vowels (compare w+e+tu 'he+perf+pull-out (it) - he has pulled it out' and m+ẽ+tu 'I+perf+pull-out (it) - I have pulled it out').

Vowel length is indicated by a doubling of the vowel symbol:

oko ho (he goes there)
 okoo ho (he went there)
 akura (mouse)
 akuraa (village)

Diphthongs are indicated by a sequence of two vowels:

| | | | |
|-----|----------|-----|--------------|
| sie | (bury) | kae | (remember) |
| tia | (tread) | bea | (lie across) |
| pue | (appear) | bua | (answer) |

Thus far we have been discussing phonemic oppositions: now we should turn to the orthographic representation of these vowels. This may be shown in the following chart:

1. It is interesting to observe that Schachter excludes e as a phoneme (1962:17); Redden and Owusu on the other hand include e as a phoneme (1963:16).

| Phonemes: | | | | | Orthography: | | | | |
|-----------|---|---|---|---|--------------|---|---|---|---|
| ɪ | e | a | ɔ | ə | e | e | a | ɔ | o |
| i | e | ə | o | u | i | e | a | o | u |

It will be seen that while there are ten phonemes there are only seven orthographic graphs. Of these a, for reasons already discussed, presents no problem. As it happens e and o present very little problem either. It happens that the phonemes e and o (i.e. the raised E and O respectively) do not occur with any frequency as the conditioning vowel for vowel harmony: consequently the most frequent occurrence of phonemes e and o is probably as the raised counterparts of e and o respectively (as, for example oobetu 'he is going to pull it out': see above). Consequently while in theory the orthography looks 'messy' in that it criss-crosses the vowel harmony series; in practice the orthography is practical in that, most commonly, orthographic e and o represent phonemic ɪ and ə respectively, except where they are clearly controlled by vowel harmony.

Nasality, even in the case of nasal vowels, is not shown in the orthography: and I do not show it here.

Vowel length is represented in the orthography and here by the doubling of vowel graphs.

I.2.3 Tone:

With a few exceptions, tone is not shown in the orthography, and it is not represented here, except where it is relevant to some particular point of the discussion (as is

the case in the discussion of verbal morphology in Chapter III). Where tone is represented the following conventions are used.¹ All words are considered to be divisible into 'tone bearing units'. These units are "every consonant vowel sequence" and "every vowel and every consonant that does not form part of a consonant vowel sequence" (Stewart, 1964:2). This means that 'long vowels' and diphthongs are considered as two (or more) tone bearing units, that all homorganic nasals are tone bearing units and all syllable final nasals are tone bearing units. Thus the following words contain the number of tone bearing units indicated: òrèkó 'he is going' (3); órènkó 'he isn't going' (4); wóbénóm 'you will drink it' (4); ònséréè Kòfí 'he hasn't laughed at Kofi' (5+2).

Every tone bearing unit is marked with either a high tone (´), or a low tone (`) or unmarked), or a falling tone (^). It seems likely that in the underlying structure only two tones high and low, need to be recognised; however, surface contrasts between high, low and falling can be observed; the falling largely arising from regular phonological processes. None of these processes are discussed here, but some may be inferred from examples in Chapter III (cf. especially 2.2a). A falling tone on a single tone bearing unit is to be distinguished from a high

1. For a full discussion on tone see especially Stewart (1964). The notation adopted here is essentially that proposed by Stewart. For other discussions cf. Christaller Grammar (25); Welmers (1959); Schachter (1961); Schachter and Fromkin (1968). For a discussion of tonal phenomena in Kwa languages in general, and in Akan in particular cf. Stewart (1971:182ff).

low series on two adjacent tone bearing units.

Within the same tone group, high tones immediately adjacent to each other are realised at the same pitch. However, when a high tone is followed by one or more low tones, which are in turn followed by a second high tone, the second high tone is appreciably lower in pitch than the first. "In the following examples the pitches of the high tones are numbered upwards, 2 being the lowest which occurs, 3 the second lowest and so on, and the pitches of the low tones are indicated by L:

Kofí hwehwé Kwabená (Kofi looks for Kwabena)
L 4 L 3 L L 2

Kwabená hwehwé Kofí (Kwabena looks for Kofi)"
L L 4 L 3 L 2

(Stewart, 1964:4). In these examples the numbers etc. are not meant to indicate actual pitches: merely pitch differentials.

Within the same tone group, low tones immediately adjacent to each other are spoken at the same pitch. However, when low tones are separated by high tones, there is a tendency for them to drop in pitch, though not so markedly as the high tones do. It is consequently possible for a high tone at the end of an utterance to be lower in pitch than a low tone at the beginning of the same utterance: it will, however, be higher in pitch than immediately adjacent low tones, and is phonologically considered to be 'high tone'.

This phenomenon, whereby high tones separated by low tones abate in pitch is called 'downdrift'.

It was stated in the previous paragraph that adjacent

high tones have the same pitch: there are some exceptions to this. There are various sequences of units, which for various reasons one would wish to regard as high tone bearing units, where there is a drop in pitch between adjacent high tones, equal to that which would occur had there been an intervening low, but where there is no intervening low. The drop in pitch between adjacent high tones is referred to as 'downstep' and is marked by a raised comma: H ' H. There are various circumstances where it is possible to generate downstep by rule. One such example involves certain morphemes whose tone assimilates to that of the preceding tone bearing unit, with consequent dissimilation from a following tone bearing unit. Thus in the following examples the negative morph (a homorganic nasal) in the habitual form of the verb always has low tone, whereas the negative morph in the continuative form of the verb assimilates. Thus:

Kofí nhyé kawá (Kofi negative+(habitual)+put-on ring:
L 4 L 3 L 2 Kofi does not put on a ring)

Kofí n'hyé kawá (Kofi negative+(continuative)+wear ring:
L 4 4 3 L 2 Kofi is not wearing a ring)

Similarly the perfect morph (a-) assimilates in the following examples, yielding downstep in the second:

Asare akásá (Asare perfect+speak: Asare has spoken)
L L L L 2 2

Kofí á'kásá (Kofi perfect+speak: Kofi has spoken)
L 3 3 2 2

Schachter and Fromkin (1968) and Stewart (1971) both offer systems of rules which will automatically generate downstep in examples such as those illustrated here. Not all instances of downstep, however, appear to be amenable to

generation by productive rules. Thus there are some noun stems which contain downstep, e.g. sé'kán 'knife'; Tá'wíá 'Tawia (personal name)', and these will need to be entered in some appropriate form in the lexicon to indicate this fact.

The domain within which downdrift operates suggests that it is an 'intonational' phenomenon. In short utterances its domain is characteristically the sentence; in longer utterances it may be the clause or phrase. In this respect it may be compared with Halliday's 'tone group' in English (1968^b). If it is regarded as an intonational phenomenon, then it must be regarded as the unmarked intonation pattern - and is characteristic of statements. It contrasts, among other patterns, with an intonational pattern that may be used to form questions: in this pattern, which may be referred to as 'final fall', which is marked by an arrow pointing downwards at the end of the sentence, the last syllable of the sentence falls to a pitch lower than that of a low tone. This is also often accompanied by breathy voice:

ɔfá (he takes it) [ɔfáʔ]

ɔfá↓ (does he take it ?). [ɔf^hâ]

Final fall is not marked in the orthography, but may be inferred from punctuation: cf. the intonational implication of the question mark in English examples like he takes it?

I.3 Scope of the description and structural sketch of some simple sentences:

The scope of this thesis is discussed in detail in Chapter II. At this point it will be sufficient to say that it is primarily concerned with a description of the syntax of some simple sentences in terms of a 'case' grammar. 'Case', in this sense, is intended to account for the underlying functional relationships between the various noun phrases in a sentence and the main verb: its scope is much the same as that intended by Fillmore (1968) or Anderson (1971).

In this and the following sections an attempt is made to provide the reader who has no previous knowledge of Twi with an outline introduction to the structure of simple sentences of the type that this work is largely concerned with. This section is largely concerned with simple indicative sentences, but also includes ^{an} introduction to the structure of the verb word: the structure of the verb word is discussed in more detail in Chapter III, and the description here is only intended as an outline to guide the reader through Chapter II. In I.4 there is a discussion in some detail of the structure of the noun phrase, since some of the points to be raised there will be important for an understanding of certain features of the discussion in the main body of the work.

A more comprehensive account of the grammar of the language may be found in Christaller (1875).¹ Other works

1. References to Christaller's Grammar, will be in the form: (Chr. 25) etc.; these refer to paragraph not page numbers.

in a 'traditional' framework include those by Riis (1854); Rapp (1936); Bellon (1913); Akrofi (1937) and Balmer and Grant (1942). With the exception of Balmer and Grant, which is a description of Fante, these works are all descriptions of Akuapem Twi; Rapp, Bellon, and Balmer and Grant are all introductory 'text book' grammars, with graded exercises for foreigners learning the language; Akrofi is in Twi, and is, in many respects, derivative from Christaller. Welmers (1946), offers a description of Fante in the framework of American 'descriptive' linguistics of the '40s: it concentrates on the phonology, morphology and morphophonemics of the language and contains very little on syntax. Boadi (1965, 66, etc.) describes various aspects of the syntax of Akan within a developing framework of transformational generative grammar. Boadi (1965) is largely in 'Syntactic Structures' terms (cf. Chomsky, 1957), Ellis and Boadi (1969) offers some phrase structure rules in 'Aspects' terms (cf. Chomsky, 1965), while Boadi (1971) introduces some discussion in 'case' terms. The introduction to Ellis and Boadi (1969) offers a brief structural sketch of Akan in terms of Halliday's 'systemic' grammar. Stewart (1963a,b) discusses some problems of Twi syntax. Redden and Owusu (1963) is a language laboratory course prepared for the United States Foreign Service Institute. All these works, and others listed in the bibliography, have been used in the writing of this thesis, as will be apparent from references in the text.

The most characteristic structure of simple one and two place sentences is NP + Vb (+NP):

1. okyeame no re+kasa
 (linguist the)_{NP} (prog+speak)_{Vb}
 'the linguist is speaking'
2. Kofi re+boro abofoa no
 (Kofi)_{NP} (prog+beat)_{Vb} (boy the)_{NP}
 'Kofi is beating the boy'

It will be convenient to refer to the various constituents of such sentences by the traditional terms used by, for instance, Christaller. The NP immediately preceding the verb will be referred to as the 'subject'; the verb in (1) and the verb and second NP in (2) will be referred to as the 'predicate'; the second NP in (2) will be referred to as the 'object'; the verb in both sentences will be referred to as the 'main verb'.

In simple one and two place sentences the subject characteristically precedes the main verb, and the object usually follows it.

In the NP the initial element is characteristically a noun: adjectives and determiners follow the noun 'head' in that order:

- 3a. okyeame no (linguist the: the linguist (cf. (1))
- b. onipa kesee bi (man big a: a big man)

If the subject NP is a pronoun this is realised in the conjunctive form, phonologically prefixed to the verb word and the first element in it:

4. o+re+kasa (he+prog+speak: he is speaking (cf. (1))
- o+re+boro abofoa no (he+prog+beat boy the: he is beating the boy (cf. (2))).

If the object NP is a pronoun this is realised in the

disjunctive form as a separate word:

5. Kofi re+boro no (Kofi prog+beat him: Kofi is beating him (cf. (2))).

Object pronouns whose referent is inanimate are frequently deleted:

- 6a. Kofi re+dum ogya no (Kofi prog+put-out fire the:
Kofi is putting the fire out)
- b. Kofi re+dum (Kofi prog+put-out (it): Kofi is putting it out).

Noun phrases are discussed in more detail in the next section.

In simple indicative affirmative sentences the verb may be found in any of six forms:¹ The forms will be referred to by the names shown in the paradigm (7) below, and for the purposes of exemplification the verb HYE 'wear, put on' is used:

- 7a. cont(inuative):
Kofí hye skyé (Kofi is wearing a hat)
- b. hab(itual):
Kofí hyé skyé (Kofi wears a hat)
- c. prog(ressive):
Kofí rehyé skyé (Kofi is putting on a hat)
- d. fut(ure):
Kofí béhyé é'kyé (Kofi will put on a hat)
- e. pret(erite):
Kofí hyee skyé (Kofi put on a hat)
- f. perf(ect):
Kofí á'hyé skyé (Kofi has put on a hat)

It will be convenient to refer to these variations in verb

1. Not all verbs will appear in all of these forms. In particular, a relatively small number of verbs appear in the continuative ('stative') form (and a few only in this form); these problems are discussed in Chapter III.

form as variations in 'aspect'.¹ It will be noted that these variations are both segmental and tonal. The segmental morphs for the progressive (re-), the future (be-) and the perfect (a-) are prefixes and orthographically represented as noted: the preterite is realised as a suffix which is represented as a doubling of the final consonant or vowel of the verb stem, when the verb is not sentence final:

- 8a. okoo ho (he went there)
- b. obaa ha (he came here)
- c. okumm no (he killed him)

When the verb is sentence final the preterite is represented by the morph -ye:²

- 9a. okoye (he went)
- b. obaye (he came)
- c. odumye (he put it out - cf (8b above)).

These six aspects are mutually exclusive. Where aspect is realised as a prefix it is the initial element of the verb word except where the verb word also contains a bound subject prefix, which precedes the aspect morph.

Negative indicative verb forms present certain problems of analysis, since, as will be seen, there is 'neutralization' between the affirmative progressive and future forms (cf. 7c,d)

-
1. 'Aspect' is used as a 'cover term' to refer to systematic variations in the verb word of the kind illustrated above: it must not be taken that it covers simple 'aspectual' relations alone, since variations in the form of the verb may have temporal, modal or aspectual implications, and indeed these categories often 'merge' with each other. Note the use of the term 'aspect' for similar variation by Schachter and Fromkin, 1968.
 2. This is somewhat of an oversimplification of the position, but it may serve for this introduction.

and the negative future (10c); and there is some cross-patterning of segmental and tonal affixes between the preterite and perfect forms in the affirmative (cf. 7e,f) and negative (10d,e). This is discussed in Chapter III, and cf. Stewart (1963b). For our present purposes we may merely note that the negative morph is a homorganic nasal, represented as -m- or -n-, immediately following the aspect morph:

10a. cont(inuative) neg(ative):

Kofí n'hyé é'kyé (Kofi isn't wearing a hat)

b. hab(itual) neg(ative):

Kofí nhyé ekyé (Kofi doesn't wear a hat)

c. fut(ure) neg(ative):

Kofí rénhyé é'kyé (Kofi will not put a hat on)

d. pret(erite) neg(ative):

Kofí ánhyé ekyé (Kofi didn't put a hat on)

e. perf(ect) neg(ative):

Kofí níhye ekyé (Kofi hasn't put a hat on).

The only other feature of verbal morphology that we need to note at this point is the optative forms. The aspect morph for this form is a homorganic nasal, except in the 'second person singular' form of the verb, where there is no aspect morph:

11. Kofí sé ménkó (Kofi says I am to go)

Kofí sé kó (Kofi says you(sg.) are to go)

Kofí sé ónkó (Kofi says he is to go)

Kofí sé yéńkó (Kofi says we are to go)

Kofí sé mónkó (Kofi says you (pl.) are to go)

Kofí sé wónkó (Kofi says they are to go).

The optative negative is phonologically identical to the habitual negative shown in (10b) above; thus:

12a. Kofi nhyé ékyé (Kofi doesn't wear a hat = 10b)

b. osé Kofi nhyé ekyé (he says Kofi is to wear a hat - optative affirmative)

c. osé Kofi nhyé ^{skyé} L (he says Kofi isn't to wear a hat - optative negative)

However, in order to distinguish the optative negative from the habitual negative I shall follow the practice of the orthography and indicate the former by a double nasal (cf. discussion in Chapter III 2.3): thus (12c) will be written:

13. osé Kofi nnhyé ékyé.

The second person optative forms are used to form the 'direct imperative':

14. hyé ekyé ! (put on a^hhat)

The verb is discussed in further detail in Chapter III.

All the sentences so far discussed have been simple sentences containing just one or two NPs. In addition to, or instead of, the object NP the verb may take various complements. Those with which we shall be concerned may be referred to as the locative, dative and essive (nominative) complements. These may be illustrated by the following sentences; the underlined NPs are respectively locative (15), dative (16) and essive (17):

15a. kanea no si opono no so
 (lamp the) _{NP} ((cont)+stand) _{Vb} (table the top) _{NP}
 'the lamp stands on the table'

b. Kofi de kanea no sii
 (Kofi) (take) (lamp the) (stand+pret)
 NP aux NP Vb
 opono no so
 (table the top) _{NP}
 'Kofi stood the lamp on the table'

- 1a. wode sekan bi buee adaka no (they+'take'knife a
open+pret box the: they opened the box with a knife)
- b. won mu baako aba (they partitive one perf+come: one
of them has arrived)
- c. nwoma no mu fa kesee aba (books the partitive part
large perf+come: the large part of the books
has arrived)
- d. ono na prekasa (he 'it+is' he+prog+speak: It is he
who is speaking)

In order to account for various features of the syntax of NPs we may suppose that NPs derive from an underlying structure which we may represent by the rule:

2. NP → Cl (+N) +Det (Classifier/Noun/Determiner)

i.e. NPs have an obligatory classifier and determiner, but an optional noun 'head'.

Where N is selected, this is realised as a noun:

3. sekan (knife: 1a); adaka (box: 1a)
nwoma (books: 1c).

and is characteristically the initial item in the NP, as in (1a,c) above.

Both classifier and determiner are developed into complexes of features. The features of the classifier account for 'personal', 'number' and 'syntactic' features of NPs. Where the head of the NP is a noun, these features are not generally realised, except for number features, which are frequently shown by an alternation in the form of the nominal prefix:

4. adaka-nnaka (box-boxes)
onipa-nnipa (man-men).

'Personal' and 'syntactic' features control certain types of grammatical transformation, notably pronominalisation.

Features of the determiner account for surface
determiners:

5. adaka no (the box: 1a); nwoma no mu fa kesee
(a large part of the books: 1c); sekan bi (a knife: 1a).

quantifiers:

6. won mu baako (one of them: 1b); nwoma no mu fa
kesee (a large part of the books: 1c; literally
"books the of(partitive) portion large")

and numerals:

7. won mu baako (one of them: 1b).

Where N is not selected, features of Cl and Det may be realised as a 'pronoun'. This analysis may be most readily appreciated with the disjunctive pronouns:

- 8a. abofora no (the boy) onipa no (the man) ono (him)
abofora bi (a boy) onipa bi (a man) obi (someone)
abofora yi (this boy) onipa yi (this man) oyi (this one)
b. won (they them: 1b) ono (he, him: 1d).

A morphological analysis of the 'third person' pronouns yields the following segmentation:

9. o+no (him) wɔ+n (them) o+bi (someone)

In each case the initial morph (ɔ-, wɔ-) may be considered as realising classifier features, and the final morph (-no, -n, -bi) as realising determiner features: the phonological identity between the final morph and determiners (cf (5)) will be observed. When the third person singular pronoun (ono) is in non-initial position, the ɔ- generally elides:

10. Kofi na Kwaame kumm no (Kofi 'it+is' Kwaame kill+pret
him: It is Kofi whom Kwaame killed)

When third person pronouns are the subject of the verb, they are prefixed to the verb word, i.e. they are 'conjunctive',

and in this case the 'determiner' morpheme is not realised:

11a. ono na prekasa (It is he who is speaking: 1d)

b. wode sekan (They: 1a).

I.4.1 The noun word:

The structure of the noun word may be represented by the rule:

1. $N \rightarrow \text{Pre} + \text{NS} (+\text{Suf})$ (Prefix/Noun Stem/Suffix)

All noun words are considered to have an obligatory prefix and stem and an optional suffix.¹

There are six nominal prefixes which may be represented as E, A, O, N, AN and \emptyset . The close back and front vowels I and U are not found as nominal prefixes. The quality of the prefix is dependent on the vowel series of the stem: thus with the prefix O:

2. ofie (house) phene (chief)

N is homorganic with the stem initial consonant: it is represented orthographically as m- before labial consonants and n- elsewhere:

3a. mmoa [mmoa] (animals)

b. nnipa [nnipa] (men)

c. nkuruma [nkuruma] (okra)

The prefix \emptyset is postulated in order to account correctly for tonal morph^ophonemics.

In non-initial position not after pause the E prefix generally and the O prefix usually elides:

1. cf. the similar analysis in Schachter and Fromkin (1968:65ff).

- 4a. ɔhyé êkyé [ɔhyêkyé] (he wears a hat)
 b. ɔbéhyé é'kyé [ɔbéhyé'kyé] (he will put on a hat)

The A, N and AN prefixes do not elide:

- 5a. ɔrehwé abɔforá nó [ɔɔhwáabɔforánó] (he is looking at the boy)
 5b. ɔbéhwé ábɔforá nó [ɔbéhwáábɔforánó] (he will look at the boy).

In (4,5) note the different tonal juncture patterns between verb and object in the progressive and future (and the retrogressive assimilation in (5) - cf. Dolphyne (1965) for details). The Ø prefix is postulated to account for parallel phenomena:¹

- 6a. ɔrésé sé'kán nó [ɔɔsêsé'kánnó] (he is sharpening the knife)
 b. ɔbésé sé'kán nó [ɔbésé'sé'kánnó] (he will sharpen the knife)

Synchronically the major function of the prefix is to show number alternation. The number system is accounted for in terms of classifier features and may be summarised in the rules:

7. [+Cl] → [_± Ct] (count)
 [+Ct] → [_± Pl] (plural)
 [-Ct] → [- Pl]

i.e. nouns are either countable or uncountable (mass):
 count nouns may be singular or plural; uncountable nouns do not show number alternation. Number alternation is

1. sé'kán (Øsé'kán) 'knife' has a zero prefix. The downstep in the stem is part of the structure of this stem, and has nothing to do with any of the productive morphophonemic processes illustrated in (4-6), some of which, as can be seen, produce downstep.

generally shown by alternation in the form of the prefix:

| | | | |
|----|----------------|----------|-------|
| 8. | gyata - agyata | (lion) | Ø - A |
| | dompe - nnompe | (bone) | Ø - N |
| | aboa - mmoa | (animal) | A - N |
| | ekuo - akuo | (heap) | E - A |
| | eda - nna | (day) | E - N |
| | shene - ahene | (chief) | O - A |
| | onipa - nnipa | (man) | O - N |

It will be noted that in these cases the plural form of the prefix is either A or N and these are the prefixes that do not elide. Some nouns do not change their prefix in the plural form:

| | | | |
|----|-------------|---------|-------|
| 9. | koma - koma | (heart) | Ø - Ø |
| | ani - ani | (eye) | A - A |
| | ese - ese | (tooth) | E - E |
| | nsa - nsa | (hand) | N - N |

In such cases number alternation is postulated on the grounds of adjective and numeral agreement:

- 10a. aboa ketewa bi (a little animal)
 mmoa nketewa bi (some small animals)
 *aboa nketewa bi
- b. ani ketewa bi (a small eye)
 ani nketewa (small eyes)
- 11a. onipa baako (one man)
 nnipa mmienu (two men)
 *onipa mmienu
- b. ese baako (one tooth)
 ese mmienu (two teeth)

Some nouns, and many compound nouns show plural by the addition of a suffix, or both a prefix and a suffix:

12. agya - agyanom (father)
 adee - nneema (thing)
 oburoni - aborofo (European)
 sikanó - asikafoo (richman).

The form of the singular prefix and suffix is not predictable from the shape of the noun stem: thus nouns will need to be entered in the lexicon together with a specification of prefix forms.

Uncountable nouns do not enter the system +plural (cf. Jespersen 1924:198ff). In those areas, however, where the limited number concord system operates they operate syntactically like singular nouns:

- 13a. sika bi (some money)
 b. sika ketewa bi (a little money)
 c. *sika nketewa bi

(cf.10). For some nouns there is the possibility of 'secondary recategorisation' (cf. Lyons, 1968:282ff.).

Thus, for example,:

14. dadee (-ct: iron; +ct: hoe, nail etc.)
 sika (-ct: money; +ct: coin, piece of money).

Thus (13c) is grammatical if it relates to an underlying structure where the classifier is developed as +ct (when it would have the sense 'some small coins') but would be ungrammatical when, as intended, the classifier is developed as -ct.¹

1. It will be convenient at various points through this work to be able to refer to some expression as 'grammatical with respect to some (specified) underlying structure',

We have noted that the major synchronic function of the prefix is to show number alternation. Historically the prefix may also have had a classificatory function, similar to Bantu nouns, and it is worth noting Christaller's generalisations: (Chr:35):

"The prefix o is chiefly used in the names of persons and animals, seldom in names of single inanimate things and materials but often in abstract nouns, especially infinitives...

The prefix 'a' is also used in names of persons and animals, but chiefly in names of individual things, sometimes in names of materials and in abstract nouns...

The prefix m is used in names of materials (collective masses) in names of single things that are viewed as collective multitudes or consist of several parts and in abstract nouns...

The prefix e has no decided character and is chiefly used with nouns before simple stems that have no other prefix...

Many nouns, especially compounds of two or more syllables and exotics, have no prefix at all."

While Christaller's remarks remain in general true today, it does not appear to be profitable to attempt to derive the form of the prefix from any semantic characteristics of the noun stem. There are some cases where different lexemes are differentiated solely by their prefix:

| | | | | | | |
|-----|------|-------------|------|---------|-----|----------------|
| 15. | adee | (thing) | odee | (yam) | | |
| | agya | (father) | ogya | (fire) | | |
| | nsa | (hand) | osa | (war) | asa | (sitting room) |
| | ase | (a disease) | ese | (tooth) | | |

are a sample. It does not seem to be profitable to attempt to derive these items from the same root: they are regarded here as simply homophonous noun stems with different prefixes.

Contd.] but 'ungrammatical' with respect to some other structure. Thus starred expressions must be understood as grammatical or ungrammatical with respect to a given underlying structure.

I.4.2 The classifier:

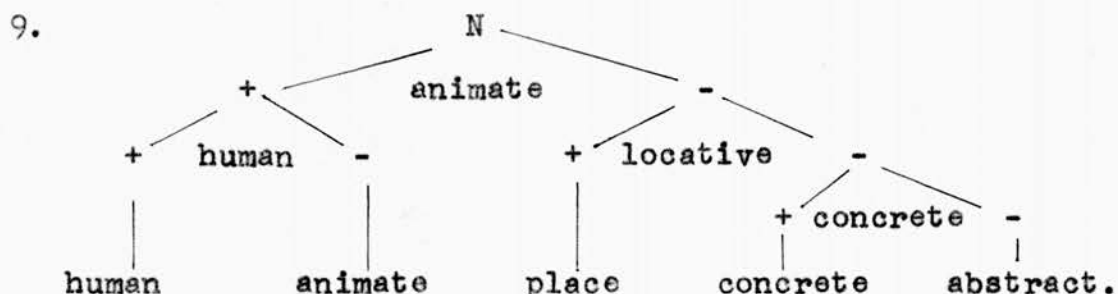
As proposed in the previous section, the classifier is developed into a complex symbol to account for 'personal' 'number' and 'syntactic' features. The full development of the complex symbol may be shown as follows:

1. C1 → SEGMENT
2. [+C1] → [ego][tu][ille]
3. $\begin{bmatrix} -\text{ego} \\ -\text{tu} \\ -\text{ille} \end{bmatrix} \rightarrow [\text{cm}][\text{an}][\text{ct}]$ (common/animate/count)
4. [+ct] → [+pl] (plural)
5. [-ct] → [-pl]
6. [+an] → [+hum] (human)
7. [-an] → [+loc] (locative)
8. [-loc] → [+conc] (concrete)

'Personal' features are shown in rule 2. Any combination of these features other than [ego tu ille] will yield a pronoun. Pronouns are of no further concern to us until 4.5 below. We will, for the present, suppose that if [ego tu ille] is chosen, then a noun head must also be chosen. Nouns thus have the character of 'non-person': cf. Benveniste 1966: Chap. 17).

[ego tu ille] segments are developed by the remaining rules into a complex symbol that accounts for features of number (rules 3, 4, 5) and the syntactic features (rules 3, 6, 7, 8). Number features have been discussed in 4.1 in connection with the noun prefix.

With the exception of [common][count] noun features may be categorised hierarchically as follows:



For convenience noun classes will be referred to by the labels in the bottom row of (9). Some examples of each class include:

- 10a. human: aberewa (old man); obarima (man)
 abofofa (child)
- b. animate: okeraman (dog); aboa (animal)
 gyinamoa (cat)
- c. place: adiho (yard); kuro (town)
 emu (inside)
- d. concrete: spono (table, door etc.); pensere (pencil)
 kerataa (paper)
- e. abstract: ohia (poverty); ahoođen (strength)

These are all common nouns. Proper nouns are generally restricted to human and place nouns:

- 11a. human: Kodwo, Kwabena, Kwaaku, Yao, Kofi, Kwaame...
- b. place: Kumase, Koforidua, Efiduase ...

Proper nouns in other classes will be found in folk tales etc.

Nouns may be assigned to more than one class. Thus, for example the place nouns in (10) may also be used as concrete nouns. Their classification as place nouns rests on the fact that they may occur without a locative particle in locative expressions (cf. Chapter V): this is not the case with concrete nouns.

The selection of this set of syntactic features rests on the fact that such features control certain types of syntactic transformation: they are not intended to be used for purposes of 'selection' (cf. discussion in 4.3 below). Some of the syntactic processes to which syntactic features are relevant include:

i: pronominalisation: human nouns are always pronominalised by ono: animate nouns may be pronominalised by ono or eno: place nouns are generally pronominalised by cho; other nouns are pronominalised by eno.¹

12a. Kofi reko ho (Kofi prog+go there: Kofi is going there)

ono na oreko ho (It is he who is going there)

b. okeraman no da ho (dog the (cont)+lie there: the dog is lying there)

ono/eno na e/oda ho (It is lying there)

c. Kumase ye fe (Kumase (cont)+be beautiful: Kumase is beautiful)

cho na eye fe (It's beautiful there)

1. Most of the examples which follow are in the form of 'cleft sentences'. The syntactic form of these sentences may be illustrated schematically as follows. Given a simple sentence of the form

NP₁ Vb NP₂

this may be put into correspondence with a cleft sentence of the form:

NP_x na NP₁ Vb NP₂

where NP_x copies either NP₁ or NP₂: NP₁ or NP₂, as appropriate, will then be pronominalised, and sometimes deleted. Thus:

Kofi kyeree Amma (Kofi catch+pret Amma: Kofi caught Amma)

Amma na Kofi kyeree no (Amma 'it+is' Kofi caught her: It was Amma Kofi caught)

Kofi na okyeree Amma (Kofi 'it+is' he+catch+pret Amma: It was Kofi who caught Amma)

d. me fie wo ho (my house (cont)+be-in-a-place there:
That is my house)

eno na ewo ho (There it is)

ii: Pronoun object deletion: human and place pronouns are not in general deleted, animate pronouns may be deleted, concrete pronouns are usually deleted:¹

13a. Kofi kyeree Amma (Kofi catch+pret Amma: Kofi caught Amma)

Amma na Kofi kyeree no (It was Amma Kofi caught)

b. Kofi kyekyeree okeraman no (Kofi red+tie-up+pret dog the: Kofi tied the dog up)²

okeraman no na Kofi kyekyeree (no) (It was the dog that Kofi tied up)

c. Kofi asi dan no (Kofi perf+build house the: Kofi has built the house)

edan no na Kofi asi (It is the house Kofi built)

d. mehwɛɛ Kumase (I+see+pret Kumase: I saw Kumase)

mehɛɛ ho (I saw it)

e. mehwɛɛ wo fie no (I+see+pret your house the: I saw your house)

mehweyɛ (I saw it)

iii: question sentences: human and place have specific NP question words: there is no distinction between other NP

-
1. The rules for pronoun object deletion are complex. The reason for referring to pronoun object deletion rather than simply object deletion is explained in Chapter 2: these remarks here, and the examples cited, are merely intended to be exemplification of the point under discussion.
 2. When verb stems are reduplicated, as here, the reduplicated segment precedes the stem. This will be glossed as shown: i.e. 'red+stem', where 'red' stands for the reduplicated segment. Reduplication is discussed briefly in Chapter III 2.2e.

question words:

- 14a. Hwan na oreko Kumase? Kofi. (Who 'it+is' he+prog+go
Kumase: Who is going to Kumase? Kofi.)
- b. chefa na woreko? Kumase. (where 'it+is' you+prog+go:
Where are you going? Kumase.)
- c. edeen na wawie enam yi? okeraman no (what 'it+is' he+
perf+eat meat this: What has eaten this meat? the
dog.)
- d. edeen na esi ho? girase no. (what 'it+is' it+(cont)+
stand there: What is standing there ? the glass.)

iv: locative expressions: place nouns may form locative complement expressions, with or without a 'locative particle': other nouns may only form locative expressions in construction with a locative particle:

- 15a. oreko Kumase (he+prog+go Kumase: he is going to Kumase)
- b. oreko akyi (he+prog+go behind: he is going yonder)
- c. oreko Kumase akyi (he+prog+go Kumase behind: he is
going beyond Kumase)
- d. *ote Ow. Debrah
- e. ote Ow. Debrah nkyen (he+(cont)+live Mr. Debrah side:
He lives with Mr. Debrah).

It will be noted that the processes which are cited in justification of the syntactic features chosen are all those which have some implications for purely syntactic operations. It has already been explained that it is not considered the function of the syntactic features to control selectional co-occurrence. It may be noted that other dialects of Twi make a different distinction between some syntactic features. Thus, in Akuapem numerals agree in 'humanity' with nouns:

- 16a. nnipa baanu (two men)
- b. mmoa abien (two animals)

This is not the case in Kwahu:

17. nnipa mmien; mmoa mmien.

(cf. Chr:80; Boadi, 1965). I shall not seek to account for

this feature. In Asante, there is the further distinction among +human NPs as between kinship. Certain kinship terms form the possessive construction optionally with a prefix 0-:

- 18a. Kofi se (Kofi's father)
- b. ne se; ose (his father)
- c. Kofi wofa (Kofi's uncle)
- d. ne wofa; owofa (his uncle)

The possessive form with ne is common and productive:

- 19a. ofie (house) ne fie (his house)
- b. nsa (hand(s)) ne nsa (his hand(s)).

The possessive form with 0- is restricted to kinship terms: the form ofie, for example, cannot be understood as meaning 'his house' but only as 'house' (cf. 19a), and there is no form *osa which may be glossed as hand (osa does, however, exist as a lexical item, meaning 'war'). This particular construction is not used in Kwahu. The forms with ne are acceptable,¹ but not those with 0-. I shall not, therefore, treat kinship as a syntactic feature: this does not, of course, imply that it is not a relevant semantic feature.

The restrictions noted above in (12-15) are largely concerned with matters of syntax within the sentence. There are other co-occurrence restrictions that we should note within the noun phrase itself. Thus, for instance, proper nouns as NPs may be considered as [+definite, +identified]

1. It may also be noted that se is not the usual lexeme for father in Kwahu. The Kwahus would normally say n'agya (his father). Lexical differences between dialects are not the concern of this work.

but do not co-occur with 'definite' articles:

20a. onipa no (the man)

b. Kofi (Kofi)

c. *Kofi no

Nor, in general, do proper nouns co-occur with numerals, quantifiers etc.

There are similar restrictions with abstract nouns:

21a. awo (cold)

b. *awo mmienu (*three colds)

etc.

1.4.3. Syntactic and semantic features:

Chomsky (1965:75ff) proposed to develop the noun within the base component into a complex symbol made up of a small set of features which control gross co-occurrence restrictions ('selectional restrictions'), and certain grammatical processes, like pronominalisation: "no matter how narrowly syntax is conceived ... there is no doubt that features such as +human play a role in purely syntactic rules" (1965:150). Chomsky also discusses, though briefly, whether such features might not be more appropriately handled by the semantic component of the grammar and concludes that "such a change would do little violence to the structure of the grammar as proposed earlier" (1965:153). McCawley (1968) maintains that "there is no reason to have syntactic selection rules", asserting that selection is an entirely semantically based process. The reasons he adduces for this stand are convincing, and examples could easily be adduced in Twi which support his general position. Selection seems to be a matter

for the semantics (if not for 'pragmatics'). On the other hand, as McCawley himself recognises there are some features that may be ascribed to the noun that do have a syntactic importance: "What is common to pronoun choice in German, English and French is the attachment of certain grammatical features to a noun phrase on the basis of the noun (if any) which that node dominates ... pronominalisation consists of wiping out everything except the index and those grammatical features: the specific form of the pronoun is determined on the basis of the grammatical features of the NP node" (1968: 142). The features I have chosen to regard as syntactic features are features of precisely this kind: they are operated on in certain specifically grammatical processes, as we have seen in 4.2 (4ff) and cf. discussion by Kuroda, 1969).

If we adopt this position, then it would seem reasonable for us to suppose that the lexical entry for any noun should contain either the full set of features necessary to subdivide nouns as in 4.3 (2): [+an +hum]; [+an -hum]; [-an +loc +place] etc.; or it should contain at least one feature from this set such that the other features may be derived by a redundancy rule. Say, for example, that nouns were marked as [+hum] or [+place] etc., then redundancy rules could specify: If [+hum] Then [+an]; If [+place] Then [+loc -an] and so on thus building up the complete feature bundle noted above. On lexicalisation, features from the noun would then be copied as appropriate onto the Cl node. In this case there would be no segment structure rules.

This solution is undeniably more satisfactory than the proposals Chomsky makes, and fits better with the outline proposals for lexicalisation discussed in Chapter 2. (cf. also Lyons, 1968:166ff.)

In spite of this, however, I shall keep the Segment Structure rules in the grammar. I do this purely in order to maintain within the grammar a statement of possible syntactic feature bundles.

I suppose that in an 'Aspects' type of grammar the syntactic features would actually be generated within the grammar as set out here, and that on lexicalisation the noun selected for the node N in the configuration Cl + N + Det would have to include in its feature specification features congruent with the relevant features in Cl. In a grammar more in keeping with the suggestions of McCawley (see above) we may suppose that a noun is selected for the node N and that the relevant syntactic features are then copied from the noun onto the node Cl. In either case, under various syntactic operations, the relevant features would be available in Cl: thus, for example, in pronominalisation the node N would be deleted, and the syntactic features of Cl and Det will yield the appropriate pronoun (cf. 4e below).

In the case of pronouns generated 'within the base' (cf. 4e) we will suppose that Cl does indeed get a feature specification within the grammar. In this case the 'Aspects' type of grammar offers no particular problems. In the McCawley type we would need to suppose that Cl was developed into a set of syntactic features only on condition that N is

not chosen in the NP. It will be observed that the rules offered here are more in keeping with an 'Aspects' type of model, in spite of the fact that my sympathies are more in line with the McCawley proposals.

I.4.4 The determiner:

We have assumed that the first rule for the expansion of the NP is:

1. NP \rightarrow Cl (+N) + Det

Here we examine the further structure of Det. Noun phrases are considered to be determined under three systems: 'distinguishers' 'quantifiers' and 'numerals'. The distinguishers are, in general, identifying:

2. nwoma no (the book) nwoma bi (a book)
nwoma yi (this book)

Quantifiers quantify:

3. nnipa nyinaa (all men); nnipa mu bi (some men)

numerals enumerate:

4. nnipa mmienu (two men) nnipa nwotwe (eight men)

In surface structure they may occur in this order:

- 5a. nnipa no nyinaa mmiensa
(men the all three: N + Dist + Quant + Num:
all the three men)
- b. nnipa no mu biara
(men the partitive each: N + Dist + Quant +
Quant: each of the men)

Accordingly the first rule for the further expansion of Det is:

6. Det \rightarrow Dist (+Quant) (+Num).

The distinguisher is obligatory, the quantifier and numeral optional. The distinguisher and quantifier nodes will now each be developed into a complex symbol, and various

configurations of features will represent the various items that are accounted for under each node. We shall not be concerned here with discussing quantifiers and numerals. It may, however, be noted that there are considerable co-occurrence restrictions between distinguisher and quantifier features, and between these and syntactic features. It is assumed that in a full grammar these would be accounted for in terms of positive and negative conditions on the well formedness of syntagms of feature bundles, in the same manner as will be proposed in Chapter 2 for features of case, aspect etc.: we will not however go into further detail here.

In discussing syntactic and semantic features in 4.3 above we noted some of the problems that arise in distinguishing between them. Here we may note that a similar situation arises with respect to distinguisher features. Since they are deictic, locating, identifying, quantifying etc. they may be said to 'orientate' a given NP with respect to various aspects of the linguistic environment: the 'interpersonal' features of discourse, anaphoric relationships to items in the environment of the discourse (both situational and linguistic), and the relation of a given sentence to the context of situation in the widest sense ("the relevant features of the participants, persons, personalities etc. ... the relevant objects" (Firth, 1957: 182)). Thus, for example a sentence like:

7. mempe oburoni no asem (I+(hab)+neg+like european
the matter: I don't like that European)

is grammatically well formed, but is not acceptable except when the situation in which it is uttered is appropriate:

specifically, for our purposes, we need to assume that both speaker and hearer can identify the European in question. Out of some such context the sentence (or the utterance of the sentence) would be anomalous. Thus, just as there is an uncertainty about the status of 'syntactic' features, specifically with reference to their relationship with 'semantic' features: so too there is some difficulty in keeping 'determiner' features distinct from what one might call 'orientational' features. The position adopted is essentially the same as that adopted with respect to syntactic features: many determiner features must, ultimately, be derived from an orientational component, and arguments that apply to a semantically based grammar apply with equal force to an orientationally based grammar. Such a grammar is not, however, a real possibility at the present, and no attempts are made here to explore its possible features. The segment structure rules offered do not therefore pretend to do more than define possible feature bundles: a full scale study of determiners would perhaps require other, and doubtless more, features.

The distinguishers with which we are concerned are the 'articles' no, bi, yi, ko and \emptyset , and various combinations of these. Consider first the distinguishers no, bi, yi and \emptyset , when one of them is the sole distinguisher of a noun. In such a situation they are mutually exclusive:

8. nwoma no (the book)
- nwoma bi (a book)
- nwoma yi (this book)
- nwoma ((a) book)

Distinguishers do not obligatorily show number alternation: thus, since nwoma in (8) is identical in the singular and plural, we might gloss the NPs in (8) as 'the books', 'some books' etc.. bi and yi, however, may optionally have the plural forms binom, yinom:

- 9a. obarima bi baa ha nne (man a come+pret here today: a certain man came here today)
 b. mmarima bi(nom) baa ha nne (men some(+pl) come+pret here today: (some) certain men came here today).

NPs determined by no are generally definite and identifying to both speaker and hearer. Thus, in an appropriate situation:

- 10a. kaa no ho ye fi (car the exterior (cont)+be dirty: the car is dirty)
 b. kookoo no abere (cocoa the perf+ripe: the cocoa is ripe)
 c. nwoma no ye me dea (book the (cont)+be my thing: the book is mine; that book is mine).

no is not, however, locating, nor is it deictic.

yi is locating and may be deictic. It is always definite and identified, the identity of the item being known to both speaker and hearer, furthermore the item is situated as proximate, either spatially or temporally to the speaker:

11. nwoma yi ye me dea (book this (cont)+be my thing: this book is my book)
 abaa yi ho ye fe (girl this exterior (cont)+be pretty: this girl is pretty)
 afei yi wo Kwaame (houses these (cont)+belong Kwaame: these houses belong to Kwaame)

There is no one-word determiner that locates non-proximately: this must be done by means of a relative clause.

The referents of NPs determined by bi are generally

unknown and unidentified to the hearer; they may be known or unknown to the speaker. In sentences such as:

12. mehyiaa onipa bi wo dwa so anopa yi (I+meet+pret
man a locative market top morning this: I met
a man in the market this morning)

menim oburoni bi aa osua Twii (I+(cont)+know European
a relative he+(hab)+study Twii: I know a European
who is studying Twi)

we may assume that the referent of the NP in question is specific to the speaker, though not to the hearer. In sentences such as:

13. kaa bi baa no too fam (car a hit+pret him throw+pret
ground: a car knocked him down)

ode nwoma bi kyee asremma no (he+'take' book a give
+pret congregation the: he presented a book
to the church)

the situation is not so clear since the speaker may or may not know the identity of the referent of the NP in question (note also the interconnection illustrated here between 'personal' features and 'distinguisher' features). This potential ambiguity we will refer to as the distinction between the 'identified' bi, glossed as 'a certain' and the 'unidentified' bi, glossed as 'some'. The ambiguity can be resolved by the addition of appropriate additional material. Thus:

- 14a. ode nwoma bi kyee asremma no, nanso mennim nwoma ko
(he+take book some give+pret congregation the,
but I+(cont)+neg+know book particular: He
gave some book to the church but I don't know
the particular one)

b. ode nwoma bi kyee asremma no, na mahu na eye f^e
(....and I+perf+see (it) and it+(cont)+is fine:
He gave a certain book to the church, and I
have seen it and it is fine).

Particularly interesting is the ability to disambiguate in this manner by the use of two determiners after a given noun:

15a. se mesua adee wo Edinburgh awie aa, meko akokyere
adee wo sukuu bi mu wo Nkawkaw, na menim sukuu ko no
(se...aa 'when': when I (hab)+study thing locative
Edinburgh perf+finish, I+fut+go consec+ingressive+
teach thing locative school certain in locative
Nkawkaw, and I+(cont)+know school particular the:
when I have finished my studies in Edinburgh, I shall
go and teach in a certain school in Nkawkaw, and I
know which one.

b. se mesua adee wo Edinburgh awie aa, meko akokyere
adee wo sukuu bi mu wo Nkawkaw, nanso mennim sukuu ko
(... but I+(cont)+neg+know school particular: When I
have finished my studies in Edinburgh, I shall go
and teach in some school in Nkawkaw, but I don't
know which one)

Note here the determiners ko no in (15a) compared with ko
alone in (15b). Similarly compare sentences like:

16a. mehuu esono bi wo wiram, na m'adamfo nso huu esono
no (I+see+pret elephant a locative bush, and my'friend
also see+pret elephant the: I saw an elephant in the
bush and my friend saw the elephant too)

b. mehuu esono bi wo wiram na m'adamfo nso huu esono bi
(... and my'friend also see+pret elephant a: I saw
an elephant in the bush and my friend saw an
elephant too)¹

There is a case, then, for suggesting that bi realises
more than one distinct feature bundle: the distinction I
shall characterise as the 'identified' and 'unidentified' bi.
Both bis are non-locating and non-deictic.

NPs with no determiner have a variety of functions. In
general they refer to a non-specific sub-set of the class of
items referred to by the head noun of the NP (in contrast to
either bi which refers to a specific member of the set, whether
it is identified or not). Thus, with non-specific reference
we find:

17. ode lore koo Kumase (he+'take' lorry go+pret Kumase:
He went to Kumase by lorry)

1. These sentences would, of course, be more acceptable with
pronominalisation of the second mention of esono:
mehuu esono bi wo wiram, na m'adamfo nso huu no/bi.

wakobo akoto (he+perf+ingressive+catch crab: ~~He has~~
~~gone to catch crabs~~)

yetu sika wo Obuasi (they+(hab)+ dig gold locative
 obuasi: gold is mined in Obuasi)

ma me pensere ((opt)+give me pencil: Give me a
 pencil)

NPs in 'statements of habit' are not usually determined:

18. ohye ekye (he+(hab)+wear hat: He wears a hat)

oko sukuu da biara nnon nsia (he+(hab)+go school day
 every bells six: He goes to school at six
 o'clock every day)

It is not easy to characterise the distinction between NPs
 with \emptyset and those with bi, but the distinction may be
 illustrated by comparing sentences like:

19a. ode lore koo Kumase (he+'take' lorry go+pret Kumase:
 He went to Kumase by lorry)

b. ode lore bi koo Kumase (He took a lorry to Kumase)

and we may note that sentences like the following while not
 unacceptable have overtones comparable to those of the
 English glosses given (and hence need a particular context
 of situation for them to be acceptable: they do not mean
 the same as the comparable sentences in (17,18) above:

20. oko sukuu bi da biaray (he+~~phab~~hab)+go school certain
 day every: He goes to a certain school every day)

ma me pensere bi ((opt)+give me pencil certain:
 Give me a certain pencil).

The determiner ko is used to 'particularise' the noun it
 determines. Christaller (Dict.) glosses ko as "the one
 concerned, the single particular person or thing; who,
 what, which in indirect questions"; (cf. also Chr:74.1).
 In surface structure it is characteristically associated
 with a restrictive relative clause:

21. Bisa no da ko aa obeba ((opt)+ask him day particular relative he+fut+come: Ask him which day he is coming)

wankyere me nwoma ko aa otaye (he+pret+neg+show me book particular relative he+buy+pret (it): he didn't show me the particular book he bought).

The NPs in question here have the structure N + ko + relative clause.

Now note that we may also find NPs with the structure N+ ko + relative clause + no, where the sequence ko ... no is analysed as a discontinuous distinguisher: the relative clause being interpolated between the two articles. The additional no has the effect of adding specifically to the particularisation (as I have tried to indicate in the following glosses):

- 22a. mennim dua ko aa woreka ho asem no (I+(cont)+neg+ know tree particular relative you+prog+ speak about matter the: I don't know the exact tree you are speaking about)
- b. adee ko aa metaye no abo (thing particular relative I+buy+pret the perf+break: The very thing I bought has broken)
- c. bere ko aa obaa ho no na obi ara nni ho (time particular relative he+come+pret there the 'it+is' someone emphatic (hab)+neg+be there: when he actually got there, there was no-one at all there)

The discontinuous distinguisher here may also be attested with other determiners. Thus, for example, note:

- 23a. m'adamfo ato ofie bi aa ewo Kumase (my'friend perf+ buy house some relative it+(cont)+be-in-a-place Kumase: my friend has bought some house in Kumase)
- b. m'adamfo ato ofie bi aa ewo Kumase no (my friend has bought a certain house in Kumase)

In the (a) sentence bi could be understood as 'identified' or 'unidentified' (cf. discussion above) - it is in fact

glossed as 'unidentified' in order to make the point - but in the (b) sentence it must be understood as 'identified'. Similarly:

24a. obarima no aa wohyiaa no ... (man the relative you+meet+pret him: the man whom you met...)

b. obarima no aa wohyiaa no no ... (man the relative you+meet+pret him the: that man whom you met ...)

25. obarima yi aa wohyiaa no no (man this relative you+meet+pret him the: this man whom you met ...)

It will be convenient to refer to the no seen after the relative clause in 21 - 25 as a 'specifier' (thus differentiating this occurrence of no from its occurrence as a 'distinguisher' as in (8) and (10)). It will be observed that the specifier no occurs largely, but not exclusively, after a relative clause: it will also be noted that it serves to specify all the distinguishers.

Since classifiers have been treated as a feature bundle, it would seem appropriate to treat distinguishers in such a way too. Since the structure of the NP is not our main concern we shall only use that set of features which will serve to distinguish the items we have discussed apart from each other. The set chosen is the minimal set, and consequently no very illuminating semantic correlation can

1. In 24b. the two nos are respectively a 'pronoun' and a specifier. Consider the following:

a wohyiaa obarima no (you+meet+pret man the: you met the man)

b wohyiaa no (you met him)

c obarima no (aa wohyiaa obarima no) no (man the (relative you meet+pret (the man)) the)

d obarima no (aa wohyiaa no) no

e obarima no aa wohyiaa no no (that man whom you met)

be offered between the features chosen and notions of identity, specificity, etc. of members of sets. However the following notes may explain the features chosen:

+def(inite): if a common noun refers to a set of objects, then an NP which is +def refers to a definable subset of this class.

+id(entified): an NP which is +id refers to an identified or identifiable subset of the class of objects referred to by the head noun.

There are four possible combinations of these items: I shall take it that they refer roughly as follows:

+def +id: a definite identified subset is under discussion: generally both speaker and hearer know the membership of this subset:

26a. mempe oburoni no asem (I+(hab)+neg+like european the matter: I don't like that european)

b. mempe oburoni yi asem (I+(hab)+neg+like european this matter: I don't like this European)

+def -id: a definite subset is under discussion, and the speaker but not the hearer knows the identity of the membership of the set:

27. metoo nwoma bi nnora (I+buy+pret book a yesterday: I bought a book yesterday)

-def +id: an identifiable subset is under discussion, but neither the speaker nor hearer know the membership of the subset: one interpretation of the following is -def +id:

28. m'adamfo too nwoma bi (my'friend buy+pret book a: my friend bought a book)

-def -id: an indefinite and unidentifiable subset is under discussion: there is no surface article:



29. onwene tam (he+(hab)+weave cloth: he weaves cloth).

We shall need to further distinguish between no and yi, both specified as +def +id: therefore we use the feature +loc(ated). Only yi is specifically located, proximate to the speaker. ko is not appropriately specified by any of these features: I shall therefore characterise it as simply +partic(ularised). The 'specifier' no which appears after the relative clause in (22-25) is most conveniently classified as a distinguisher: we may therefore suppose that to any of the combinations noted above we may add the feature +spec(ific): a late rule will order the specifier after any relative clause.

The permissible combinations of distinguishers may now be generated by the following 'segment structure rules':

30. Dist → SEGMENT

$$[+dist] \rightarrow \left\{ \begin{array}{l} [+def][+id] \\ [+partic] \end{array} \right\} ([+spec])$$

$$\left\{ \begin{array}{l} [+def] \\ [+id] \end{array} \right\} (\rightarrow) +loc$$

These rules will allow the generation of the feature bundles:

| | |
|-----------------------|-----------------|
| 31. [+dist, +def +id] | (<u>no</u>) |
| [+dist +def -id] | (<u>bi</u>) |
| [+dist -def +id] | (<u>bi</u>) |
| [+dist - def -id] | (\emptyset) |
| [+dist +partic] | (<u>ko</u>) |
| [+dist +def +id +loc] | (<u>yi</u>) |

and each bundle with the addition of [+spec].

I.4.5 Pronouns:

In I.4 it was proposed that all NPs, including those with pronouns as 'heads', are developed from a structure Cl (+N) +Det: and that when N is not selected, features of Cl and Det are realised as pronouns.

It will be recalled that in I.4.1 Cl was developed into a feature bundle accounting for 'person' ([+ ego] etc.), number ([+ plural] etc.) and syntactic ([+ animate] etc.) features. It was further proposed that if [-ego -tu -ille] was chosen, that a noun head was also to be chosen: let us now lift this restriction. This will give us two sets of pronouns: those which are characterised by one or more of the features [ego][tu][ille], which we may refer to as the 'personal' pronouns; and those which are characterised as [-ego -tu -ille] which we may refer to as the 'non-personal' pronouns.

Personal Pronouns:

Broadly speaking [+ego] may be thought of as indicating the speaker, [+tu] the hearer and [+ille] some relevant third party. Other classifier features may be redundantly specified, depending on combinations of these three features chosen. If [+ego] alone is chosen, then other features must be [+ct], [-pl]; if [+tu] alone is chosen, then [+ct] is redundant, but [+ pl] will have to be chosen elsewhere (to distinguish between 'you' (sg) and 'you' (pl)), etc. Similarly syntactic features may be redundantly specified, since personal pronouns must be animate and human. Distinguisher features may also be redundantly specified, since

they are always [+def +id]. With these restrictions in mind, the following personal and number combinations are allowed for: the relevant pronoun is shown in its 'disjunctive' form at the head of each column:

| | | | | | | | | | | |
|----|------|----|----|-----|-----|-----|-----|----|----|-----|
| 1. | | me | wo | ono | yen | yen | yen | mo | mo | won |
| | ego | + | - | - | + | + | + | - | - | - |
| | tu | - | + | - | + | - | + | + | + | - |
| | ille | - | - | + | - | + | + | - | + | + |
| | pl | - | - | - | + | + | + | + | + | + |

The multiple assignments to yen and mo are required for sentences such as:

2. me ne wo na yereko sine (It is you and I who are going to the cinema)
 me ne no na yereko sine (He and I are going to the cinema)
 wo ne no na moreko sine¹ (you and he are going to the cinema)

The forms illustrated in (1) are the 'disjunctive' forms. Of these three (me, wo and mo) may be considered monomorphic and three (ono, yen and won) bimorphic. It will be observed that in the case of the bimorphic pronouns the second morph is either identical, or similar, to the definite and identified distinguished no ('the, that'). The conjunctive forms of the pronouns are derived by selecting the first, or only, morph:

1. The ordering of pronouns is generally as shown: [+ego] precedes [+tu] which precedes [+ille]. Pronouns generally precede nouns. Thus me ne Kofi na yereko sine (*Kofi ne me na ...) 'Kofi and I are going to the cinema'.

3. me na mereko (It is I who is going)
ono na oreko (It is he who is going)

Non-personal pronouns:

With the non-personal pronouns there are no restrictions on classifier and distinguisher features. Consequently a large matrix of items may be built up satisfying all the different combinatorial possibilities of features: the forms illustrated are the 'disjunctive' forms once more. Where appropriate the forms are morphically analysed:

4. The non-personal pronouns:

| | | | | | |
|------------------------|---|---|--|---|------------|
| Distinguisher features | $\begin{bmatrix} +\text{def} \\ +\text{id} \end{bmatrix}$ | $\begin{bmatrix} +\text{def} \\ -\text{id} \end{bmatrix}$ | $\begin{bmatrix} +\text{def} \\ +\text{id} \\ +\text{lod} \end{bmatrix}$ | $\begin{bmatrix} -\text{def} \\ -\text{id} \end{bmatrix}$ | [+partic] |
| | or | | | | |
| Cl. features | $[-\text{pl}][+\text{pl}]\begin{bmatrix} -\text{def} \\ +\text{id} \end{bmatrix}$ | | | | |
| +hum | o-no | wo-n | o-bi | o-yi | ye o-no-ko |
| +anim | o-no | | | | |
| -hum | e-no | e-bi | e-yi | e- | de-ko-de |
| +loc | e-ho | baa-bi | e-ha | | faa-ko |

CHAPTER TWO: THE SENTENCE

"The sentence is the maximum unit of grammatical analysis: that is, it is the largest unit the linguist recognises in order to account for the distributional relations of selection and exclusion that are found to hold in the language he is describing ... As a grammatical unit the sentence is an abstract entity in terms of which the linguist accounts for the distributional relations holding between utterances" (Lyons, 1968:176).

II.1 Introduction:

This chapter gives a general outline of the syntactic structure of sentences in Twi. The description is arranged in three major parts under the following headings:

II.2 Illocutionary force, modality and nucleus

II.3 The nucleus

II.4 Functional structure and syntactic structure.

The first section (Illocutionary force, modality and nucleus) is concerned with distinctions that may be drawn between the major modalities (characterised as illocutionary force), secondary modalities (modality), and the lexical core (nucleus) of the sentence.

The description of the major modalities draws upon the notion of 'speech acts' (cf. Searle, 1969). Each sentence is characterised as an ASSertion, Question or COMmand (the three major illocutionary forces recognised). The relationship between this characterisation and the major syntactic sentences types, indicative, interrogative and imperative, is explored. We also discuss the relationship between illocutionary force and 'performative' verbs.

In addition to these primary modalities, a sentence may be characterised for secondary modalities, for example those associated with notions such as 'necessity', 'obligation' and 'ability'. The syntax of these modalities is not discussed in any detail in this work.

Finally those aspects of the grammar of a sentence that may be summarised under the headings 'tense', 'aspect' and 'polarity' and its lexical material are discussed under the heading of 'nucleus': the lexical material is held to constitute the 'core' of the nucleus, and the other categories, its 'qualifier'.

The underlying structure of sentences is held to be bipartite: a specification for illocutionary force and what is referred to as the proposition. The proposition is also held to be bipartite: an optional specification for modality and an obligatory nucleus. The nucleus too is bipartite: it consists of a qualifier (which accounts for distinctions of tense, aspect and polarity) and a core (which accounts for the lexical material).

As a simple illustration, consider the sentence:

1. okyeame no rekasa (linguist the prog+speak: the
linguist is speaking)

The sentence contains two lexical items OKYEAME 'linguist' and KASA 'speak' in some statable relationship with each other. They constitute the core of the sentence. The core is qualified by certain aspect markers, in this case prog(ressive) (which is realised by the bound morph represented as re- on the verb word). These together

constitute the nucleus of this sentence.¹

Sentence (1) is not marked for any secondary modality. Sentences similar to (1) which are marked for a secondary modality include:

- 2a. ese se okyeame no kasa (it+(cont)+necessary that linguist the (hab)+speak: the linguist must speak).
 b. onse se okyeame no kasa (it+(cont)+neg+necessary that linguist the (hab)+speak: the linguist mustn't speak).

The 'modal verb' SE is itself regarded as being part of a modal nucleus (since it may, to a limited extent, vary its polarity etc. independently of the nucleus with which it is in construction: as illustrated in (2)).

Finally all the sentences so far discussed are marked for one of the primary modalities with a specification for illocutionary force. In (1,2) the illocutionary force marking is not overt (except insofar as we may consider the fact that they are indicative sentences to be an overt marker of illocutionary force). Overt markers of illocutionary force are the 'performative' verbs (cf. Austin, 1962; Ross, 1969) in sentences such as:

- 3a. mese ese se okyeame no kasa (I+(hab)+state it+(cont)+necessary that linguist the (hab)+speak: I state that the linguist must speak)

1. The specification noted for the qualifier is merely an outline suitable for our present purposes: the structure of the verb word is not discussed in detail until Chapter III. No attempt is made in this Chapter to account for features of the noun phrase. Thus in underlying structures illustrated in this chapter no account will be taken of determiners etc. (e.g. no in (1). Noun phrases will merely be represented by the lexeme which is considered to be 'head' - cf. the representation of (1) shown in (4b).

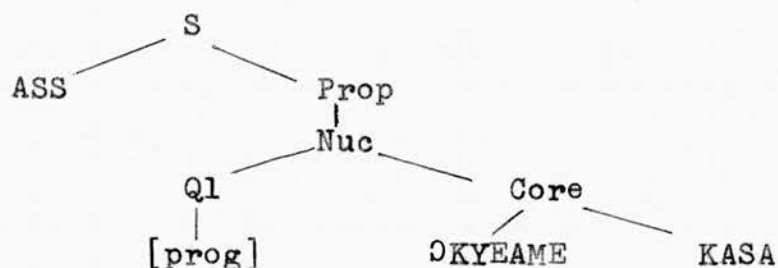
- b. mebisa wo se ense se okyeame no kasa anaa (I+(hab)+ask you that it+(cont)+neg+necessary that linguist the (hab)+speak question: I ask you whether the linguist doesn't have to speak)

SE in (3a) is an assertion performative (and the sentence is an assertion); BISA in (3b) is a question performative (and the sentence is a question). When performative verbs are introduced, they develop from an illocutionary nucleus in a manner analogous to the development of modals from a modal nucleus.

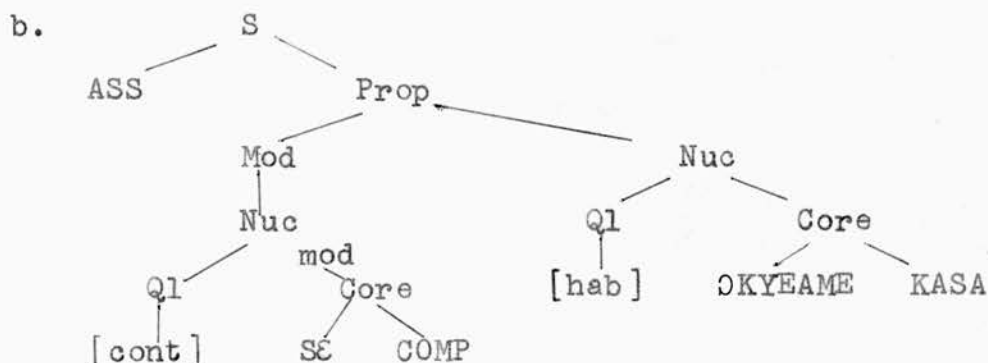
The distinctions made may be schematically illustrated in the tree diagrams shown in (4), (5) and (6). Such structures will be referred to as 'underlying structures'. It will be clear that there are features of these structures that require explanation and these will be discussed and exemplified in the sections to follow: the following remarks may however be helpful at this stage. The features noted under Q1 are in general realised as affixes bound to the verb of the core with which Q1 is in construction. COMP may be considered as a 'dummy' node onto which the relevant Prop or Nuc with which it is in construction will be embedded.

- 4a. okyeame no rekasa (the linguist is speaking)

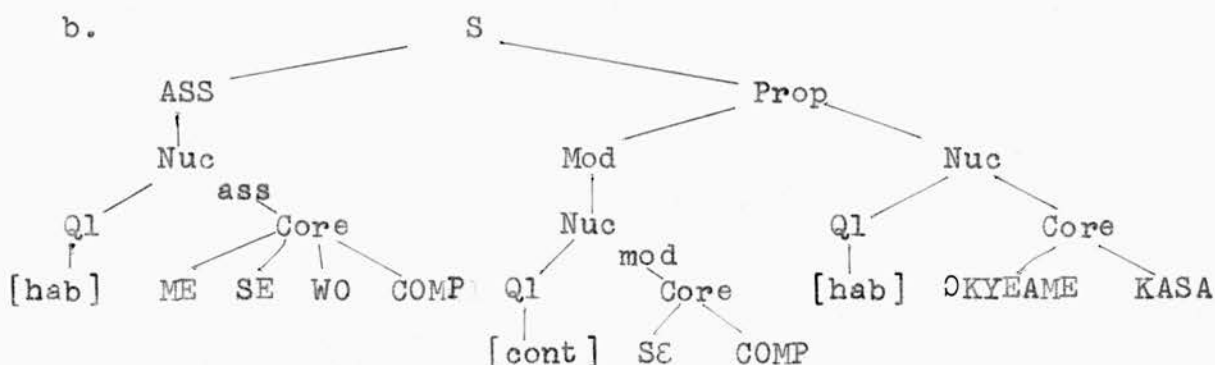
b.



- 5a. es^s se okyeame no ka^sa (the linguist must speak)



6a. mese ese se okyeame no kasa (I tell you the linguist must speak)¹



These proposals with respect to underlying structure are not, it must be pointed out, entirely original. Seuren, for example, makes rather similar proposals for English: "A sentence is a deep structure including at least one sentence qualifier, which characterises the sentence as a performative act and is a bearer of this specific meaning. A proposition consists of a nucleus plus at least an operator of tense, but never a sentence qualifier. This distinction is useful in syntax as embedding of constructions sometimes involves tense (clauses) and sometimes not (nominalisation, infinitive or participial constructions); it sometimes also involves a

1. SE generally requires deletion of the object (wo) and the complementiser (se). In fact the sentence:
 mese wo se_{se} okyeame no kasa (compare with (6a))
 is acceptable, but the form given in (6a) is more usual.

sentence qualifier (descriptive relative clauses). We can now allow for embedding of nuclei, propositions or sentences. Semantically this distinction is useful as it provides a regular formal means of distinguishing semantically between different types of sentence (assertions, questions etc.), between independent sentences and dependent clauses, and between these and tenseless nuclei. The nucleus is now purely relational: it does nothing more than define grammatical relations (subject, verb, object, etc.) among lexical items" (1969:150).

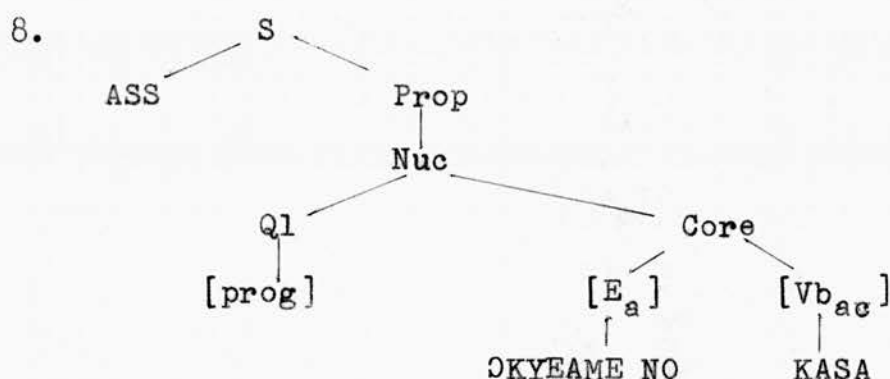
The second section of this chapter deals with the Nucleus. It will be noted that Seuren suggests that "the nucleus is ... purely relational: it does nothing more than define grammatical relations ... among lexical items". Seuren's nucleus corresponds roughly with my Core. Like Seuren, I propose to treat the Core as "purely relational". However, unlike him, I propose to deal with grammatical relations within the core in terms of notions of case, rather than notions like "subject, verb, object". The proposals I have to make here owe a great deal to Fillmore's proposals with respect to case (cf. Fillmore, 1968, etc.) and have been influenced by many of Anderson's ideas (cf. Anderson, 1968, and especially Anderson, 1971). In particular I borrow my case terminology from Anderson rather than Fillmore, and owe to him the notion that cases may be described in terms of feature bundles rather than relations between single-valued cases, as in Fillmore, 1968.¹ The

1. Not all Fillmore's work deals with unitary cases: cf. especially Fillmore (1969).

details of the system can be left until later: by way of illustration, however, we may say that the nucleus of the sentence (1) is characterised as:

7. prog: Ea Vb_{ac}

i.e.: it is in the progressive aspect (these features are marked on Q1). The two lexical items in the Core may be characterised as, respectively, realising an ergative actor case feature bundle (which may be thought to correspond roughly to a characterisation as the initiator and performer of the action expressed by the verb) and an action verb feature bundle (which corresponds to a particular subclass of verb). Incorporating this characterisation into the structure (4) we have a specification shown in (8).



Implicit in the preceding account is the fact that, like Fillmore and Anderson (and also Halliday, 1967, 68, 70), I do not consider the notions "subject" and "object", to be relevant to underlying structure. Like them I consider these notions more appropriate to surface structures: reasons for this are discussed in II.3.2.

The structures exemplified in (4)-(6) and (8) are what I shall refer to as underlying structures. In the third major section of this chapter we examine the relation between

such structures and syntactic constituency structure. Since the relationship is somewhat complex, there is no point in discussing it further here. In the third section we also discuss the relationship between semantics and grammar, and the position which structures such as (8) occupy in a total description of the language.

II.2 Illocutionary force, modality and nucleus:

The term "illocutionary force" derives from a philosopher (Austin, 1962), so it will be appropriate to illustrate its scope by a quotation from a philosopher: "Imagine a speaker and a hearer and suppose that in some appropriate circumstances the speaker utters one of the following sentences:

1. Kofi reboro abɔfora no (Kofi prog+beat boy the:
Kofi is beating the boy)
2. Kofi reboro abɔfora no anaa? (Kofi prog+beat boy the
question: Is Kofi beating the boy?)
3. Kofi, boro abɔfora no! (Kofi, (opt)+beat boy the:
Kofi, beat the boy).

Now, let us ask how we might characterise or describe the speaker's utterance of one of these.In uttering (1) a speaker is making (what philosophers call) an assertion, in (2) asking a question and in (3) giving an order. ... And in the performance of each of these three acts the speaker performs certain other acts which are common to all three: in uttering any of these the speaker refers to or mentions or designates a certain object Kofi, and he predicates the expression boro abɔfora no (or one of its inflections) of

the object referred to. Thus we shall say that in the utterance of all three the reference and predication are the same, although in each case the same reference and predication occur as part of a complete speech act which is different from any of the other two. We thus detach the notion of referring and predicating from the notions of such complete speech acts as asserting, questioning, commanding etc., and the justification for this separation lies in the fact that the same reference and predication can occur in the performance of different complete speech acts. Austin baptised these complete speech acts with the name 'illocutionary acts' (Searle, 1969:22-23).¹

The notion that sentences may be used to make assertions, to ask questions, give commands etc. is not, of course, foreign to the grammarian. Traditionally, however, he has also drawn a further distinction - between what I shall refer to as the 'illocutionary force' of a sentence (by which it may be characterised as an assertion, question, command etc.) and the grammatical structure of the sentence (as indicative, interrogative, imperative etc.). Illocutionary force, as in the quotation above, refers to the characterisation of the sentence, as an assertion,

1. Searle's examples are, naturally, in English:

Sam smokes habitually

Does Sam smoke habitually?

Sam, smokes habitually!

Would that Sam smoked habitually.

I have substituted Twi examples because the point that Searle is making is as valid for Twi as it is for English. I have, however, used only three examples, rather than four (and consequently silently amended the text to read three etc. where Searle has four etc.). The reasons why I have omitted the 'optative' sentence will become clear in due course.

command etc. Grammatical structure refers to formal features of the syntax, as, for example, the presence of the interrogative marker anaa in the interrogative sentence (2), the optative form of the verb in the imperative sentence (3) and the 'unmarked' form of the indicative sentence (1). In the sentences (1-3) illocutionary force and grammatical structure are congruent - i.e. the assertion has the form of an indicative sentence, the question the form of an interrogative sentence, etc. - and this is commonly the case as Christaller remarks: "A sentence is a complete thought expressed in words. In every such expression there is 1st, a thing of which we speak, the subject, and 2ndly, what we say of it, the predicate. ... The predicate may assume the form of an assertion, ... or a command or a question. ... Indicative sentences contain an assertion ... Imperative sentences contain a command ... Interrogative sentences contain a question" (Chr.148-153).¹

-
1. In fact, in the passage referred to here, Christaller recognises five types of sentence: Indicative, optative, imperative, interrogative and exclamatory. I shall argue that optative sentences are a derived form of either Assertions, or Commands, and hence do not need separate recognition among the 'basic' illocutionary forces. Exclamatory sentences need special treatment, but are not considered at length here. See, however, some further remarks in II.1 below. Christaller does not seem to draw any firm distinction between what I have called the illocutionary force and the syntactic type of sentences. He does however remark that "The only true verbal forms are those which assert (or deny), command (or wish, entreat, forbid), or ask a question" (Chr. 90.1). I am entirely in agreement with this final quotation.

Illocutionary force and grammatical structure need not, however, necessarily be congruent. Thus, for instance, the sentence:

4. mebisa wo se Kofi reboro abofoa no anaa (I+(hab)+ask
you that Kofi prog+beat boy the question: I
ask you whether Kofi is beating the child)

may be used to ask a question just as readily as (2) but it has the form of an indicative sentence, with an interrogative sentence embedded within it.¹ Christaller also notes examples of non-congruence: "sometimes an assertion is expressed in the form of a question ... imperative sentences may also be interrogative, in which case an antecedent sentence may be considered to be omitted" (Chr. 153). In this section we shall concentrate on sentences like (1-3) where illocutionary force and grammatical structure are congruent, since it simplifies the initial presentation: thus I shall assume that if a sentence is characterised as an assertion, it will have the form of an indicative sentence, if as a question, that of an interrogative sentence, etc. Sentences like (4) are discussed further in II.2.1 below.

-
1. The sentence is, in fact, ambiguous, as between the reading noted 'I ask you whether Kofi is beating the child' which we may analyse as:

mebisa wo (Kofi reboro abofoa no anaa)
(I ask you (Is Kofi beating the child?))

where, as stated, the matrix is indicative and the constituent is interrogative, and the reading 'Do I ask you whether Kofi is beating the child?' which we may analyse as:

mebisa wo (Kofi reboro abofoa no?) anaa
(Do I ask you (Is Kofi beating the child?))

where both matrix and constituent are interrogative. The details of the analysis are considered in II.2.1. below.

We may now return to the distinction drawn by both Searle and Christaller between the illocutionary force of a sentence and what we will refer to as the proposition expressed within it. Searle claims that these two notions are relatively independent. That this is the case, at least with respect to assertions and questions, may be seen by the fact that there are few co-occurrence restrictions between the illocutionary force of the sentence and its tense/aspect and polarity. Thus, corresponding to the sentence (1) we will find sentences like:

5a. Kofi boroo abɔfora no (Kofi beat+pret boy the:
Kofi beat the boy)

b. Kofi aboro abɔfora no (Kofi perf+beat boy the:
Kofi has beaten the boy)

which vary with respect to tense/aspect, and others like:

6a. Kofi remmoro abɔfora no (Kofi fut+neg+beat boy the:
Kofi ~~didn't~~^{isn't} beat^{ing} the boy)

b. Kofi ammore abɔfora no (Kofi pret+neg+beat boy the:
Kofi didn't beat the boy)

where both tense/aspect and polarity vary. The sentences (5,6), like (1) are assertions. Corresponding questions may be formed:

7a. Kofi boroo abɔfora no anaa? (Did Kofi beat the boy?)

b. Kofi remmoro abɔfora no anaa? (Isn't Kofi beating the boy?)

etc.

Distinguishing then between proposition and illocutionary force, we may informally represent the structure of the sentences (1,2), omitting details of constituent structure, as, respectively:

8. ASS (Kofi reboro abofofa no)
9. QU (Kofi reboro abofofa no).

We may now carry the argument a stage further. If the analysis (8,9) is acceptable, then the same logic applied to the sentences (5-7) suggests that tense/aspect and polarity may be distinguished from the lexical items in the proposition: cf. Bazell, 1953, 65ff where he proposes taking tense as an immediate constituent of the sentence at the 'morphemic level'. The lexical items and the functional relations between them remain unchanged under the variations in tense/aspect and polarity. This implies the further analysis of (8,9) as:

10. ASS ((prog) (KOFI BORO ABOFOFA))

11. QU ((prog) (KOFI BORO ABOFOFA))

and of, say, (7) as:

12. QU ((pret) (KOFI BORO ABOFOFA))

13. QU (((fut)(neg)) (KOFI BORO ABOFOFA))

If there are few restrictions between ASS and QU and the predications with which they are in construction, this is not the case with commands. Commands, as is well known and as Lyons notes, are generally "issued directly to the hearer (and) what one might call the 'central' class of imperative sentences are associated with the 'second person'" (1968:307). Christaller distinguishes the 'central' class of imperatives formally in that he recognises two imperative paradigms in the verb: a 'first imperative form' "which desires an action to be done by the addressed person" and a 'second imperative form' which "marks an action which some other subject desires to be done by the subject of the verb"

(Chr. 9,10). While there is no need to distinguish two imperative paradigms, each suppletive to the other, (cf. discussion in Chapter 3, and Stewart, 1963:184), we do clearly need to place certain restrictions on the central imperative, since in Twi, as in other languages, such imperatives are indeed 'restricted to the addressed person' by definition. Thus, for example, of the following sentences, only b and e are acceptable:

- 14a. *kum me ho (* (opt)+kill me reflexive: *kill myself)
- b. kum wo ho (kill yourself)
- c. *kum ne ho (*kill himself)
- d. *me, Kofi, bera ha (*me, Kofi, (opt)+come here:
me, Kofi, come here)
- e. wo, Kofi, bera ha (you, Kofi, come here)
- f. *ono, Kofi, bera ha (*him, Kofi, come here)

In order to bring commands into line with assertions and questions, and, in doing so, to account for the co-occurrence restrictions in the reflexive forms in (14a-c), and the 'vocative' forms in (14d-f), we may postulate an underlying second person subject to the predication. Thus sentences like:

- 15a. boro abɔforano (Beat the child)
- b. mmoro abɔfora~~n~~o (Don't beat the child)

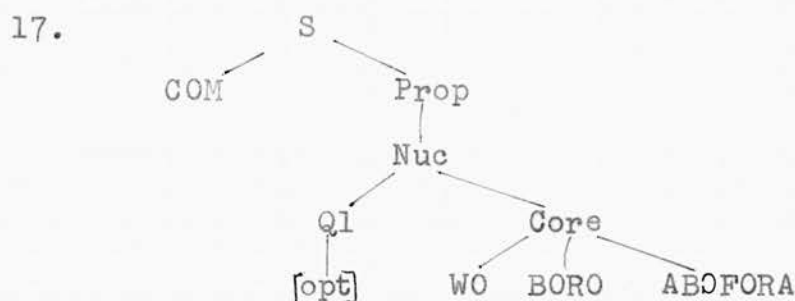
may be analysed as:

- 16a. COM ((opt) (WO BORO ABɔFORA))¹
- b. COM ((opt)(neg) (WO BORO ABɔFORA))

1. The verb form used in imperative sentences is referred to as the 'optative' form: cf. Schachter and Fromkin, 1968. Its use is not restricted to 'central' imperative sentences, as we shall see in II.2.1 below. The second person singular imperative, as in (14,15) has no aspect marker. In all other persons the optative verb form shows an aspect marker; a homorganic nasal:
 wo, bera ha (you(sg), (opt)+come here: you, come here)
 mo, mommera ha (you(pl), you(pl)+opt+come here:
 you, come here)

Co-occurrence restrictions between COM, opt and the subject of the proposition will be discussed in due course.

At this point it will be helpful to summarise the points made and introduce some terminological distinctions. All sentences are regarded as consisting of a marker for illocutionary force and a proposition. Three illocutions are recognised: assertions (ASS) questions (QU) and commands (COM). These characteristically correspond with indicative, interrogative and imperative sentences respectively: sentences where illocutionary force and sentence structure are non-congruent, as in (4), are discussed in II.2.1 below. All the propositions so far discussed have the minimal obligatory structure, which we may refer to as nuclear: hence I shall refer to those propositional structures so far illustrated as structures of the propositional nucleus. It will be clear from the bracketting introduced in (10-13,16) that the nucleus is also regarded as having a structure. For our present purposes this may be regarded as bi-partite: there is a specification for tense/aspect and polarity, which will be referred to as the 'qualifier' and a specification of the lexical items in the proposition, which I shall refer to as the 'core'. Sentences, then, are analysed as consisting of an illocution and a proposition: the proposition consists minimally of a nucleus; the nucleus consists of a qualifier and a core. Thus a structure such as, say, (16a) may be represented by means of the tree diagram shown in (17).



The distinctions noted above between imperative, interrogative and imperative sentences have often been associated, in general linguistic theory, with the category of 'mood'; cf. for example Lyons, 1968:307ff. Mood, as defined by Hockett, refers to those features of the sentence that "show differing degrees or kinds of reality, desirability or contingency of an event" (1958:237) and imperative, interrogative and indicative by no means exhaust the distinctions that may be referred to under the general heading of 'mood'. There are other ways in which the 'reality' etc. of an event, or, to take another feature frequently described as modal, the 'attitude' of the speaker may be marked grammatically. Thus, for example, the sentences:

- 18a. Kofi beboro abofora no (Kofi fut+beat boy the:
Kofi will beat the boy)
- b. okyeame no kasa (linguist the (hab)+speak: the
linguist speaks)

may be compared with:

- 19a. eho nhia se Kofi beboro abofora no (it (hab)+neg+
necessary that Kofi fut+beat boy the:
Kofi doesn't have to beat the boy)
- b. ese se okyeame no kasa (It+(cont)+necessary that
linguist the (hab)+speak: the
linguist must speak)

If the sentences (18) may be characterised as assertions, as I have argued, then, by the same argument we may also

characterise the sentences (19) as assertions. Like the assertions previously examined the sentences (19) are indicative; and like them, there are the corresponding questions:¹

20a. *eho nhia se Kofi bebora abofora no anaa?* (Doesn't Kofi have to beat the boy?)

b. *ese se okyeame no kasa anaa?* (Must the linguist speak?)

etc. Thus, by analogy with the analysis of sentences like (1) offered in (8), we may analyse these sentences as:

21. ASS (*eho nhia se Kofi bebora abofora no*)

etc.

Turning now to analyse the structure of the predication, we may note first that those portions of the sentences (19) which follow the complementiser *se* are identical to the corresponding sentences (18). This suggests that we may associate the relevant modalities in (19) with the portion of the sentence that precedes *se*. Accordingly the analysis (21) may be revised to:

22. ASS (*eho nhia se (Kofi bebora abofora no)*).

The implication of such an analysis is that modalities of necessity, obligation, ability etc. are regarded as 'secondary' modalities, in contrast to the 'primary' modalities associated with illocutionary force. Furthermore, it implies that such modalities are part of the structure of the proposition.

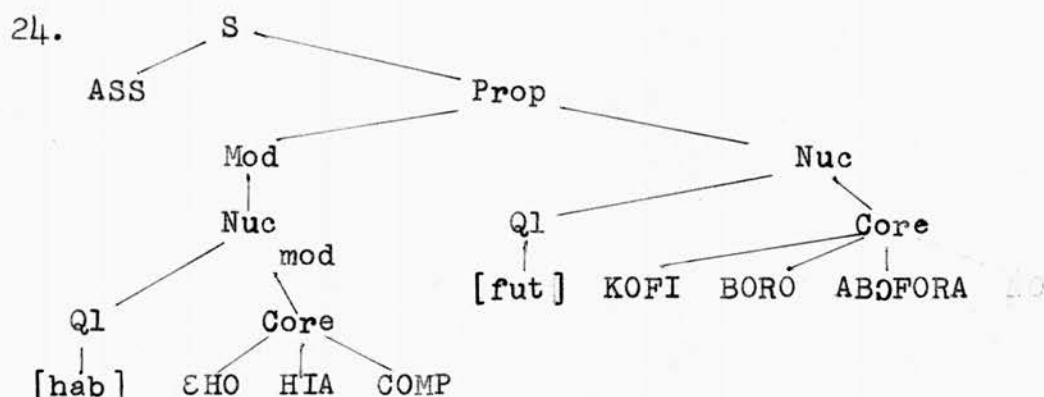
1. The fact that there are no corresponding commands should be noted. This restriction can be accounted for by general restrictions on the structure of the nucleus in construction with the COM illocutionary marker, and is discussed in more detail in II.2.1 below.

In support of this analysis, it may be recalled that in ^{discussing}discursive sentences like (18a) we noted that tense/aspect and polarity varied independently of the structure of the nuclear core: it was partly this fact that led us to offer the bipartite analysis of the nucleus illustrated in, for example, (17). We may now observe that in a similar way the tense/aspect and polarity of the modal may, to a limited extent, vary independently of the structure of the modal and the nucleus with which it is in construction. Consider, for example:

- 23a. eho hia se Kofi boro abofora no (It (hab)+necessary
that Kofi (hab)+beat boy the: Kofi must
beat the boy)
- b. eho nhia se Kofi boro abofora no (It (hab)+neg+
necessary ... (hab)+beat ... : Kofi
doesn't have to beat the boy)
- c. eho hia se Kofi beboro abofora no (It (hab)+
necessary ... fut+beat ... : It is
necessary that Kofi should beat the boy)
- d. eho behia se Kofi beboro abofora no (It fut+
necessary ... fut+beat ... : It will be
necessary for Kofi to beat the boy)
- e. eho hiaye se Kofi boro abofora no (It necessary+
pret ... (hab)+beat ... : It was
necessary that Kofi should beat the boy)
- f. eho hiaye se Kofi boroo abofora no (It necessary+
pret ... beat+pret ... : It was necessary
for Kofi to beat the boy)

The fact that there is independent variation (even though, to be sure, there are considerable restrictions on such variation) between the tense/aspect and polarity of modal and nuclear verb, leads to the proposal to develop the modality node itself as a kind of nucleus. As with other nuclei, this is postulated as having a bipartite structure:

Q1 accounts for tense/aspect and polarity features and Core for what may be referred to loosely as lexical material. The analysis (22) is accordingly revised to that shown in (24).



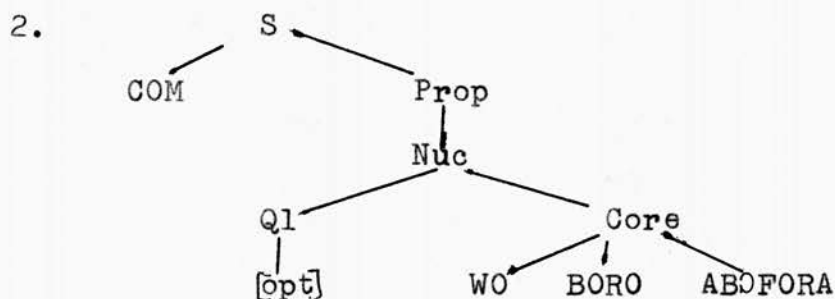
To conclude, then, the sentence consists of an illocution and a proposition. The proposition consists of an optional modal constituent (which, if it is chosen, develops into a modal nucleus) and an obligatory propositional nucleus. Both modal and propositional nucleus have the structure qualifier + core; qualifier accounts for tense/aspect and polarity, and core for the lexical material introduced. It has already been observed that this analysis bears some similarity in spirit, though not in detail to that suggested for English by Seuren (1969). It also bears some similarity to the analyses favoured by the so-called 'generative semanticists' (cf. Ross, 1969; McCawley, 1968, etc.)

II.2.1 Illocutionary Force:

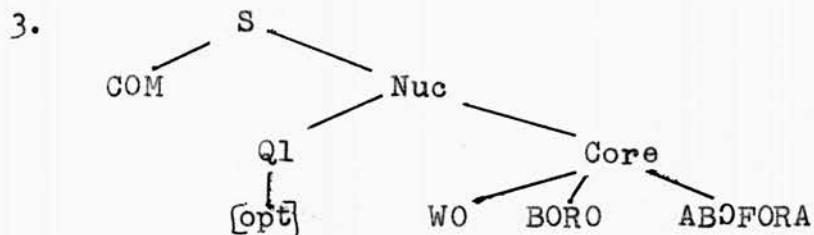
In the previous section it was proposed that the underlying structure of all sentences is bi-partite: it consists of a marker of illocutionary force and a proposition. Thus the structure underlying a sentence like:

1. boro abofofa no! ((opt)+beat child the: beat the child!)

is of the form shown in (2).



All the structures we shall examine in this section will, like (1), have a nuclear proposition, i.e. they are marked for no secondary modality in the sense in which this has been outlined in the previous section: it will therefore be convenient, and will affect none of the argument offered, if where appropriate we abbreviate this structure to that shown in (3).



It will be obvious that such a structure is rather similar to the structure proposed for imperative sentences in English by Katz and Postal (1964), Chomsky (1965), Thorne (1966) etc., and for Twi by Boadi (1966). In the Katz-Postal model the morpheme COM may be used both to 'trigger off' the relevant transformations, and to account for co-occurrence restrictions between COM, opt and WO. Katz and Postal, in addition to using a marker like COM for purely syntactic purposes, propose that it should have a semantic reading: a "dictionary entry" "that represents

it as having roughly the sense of 'the speaker requests, asks, demands, etc., that'" (1964:76). There is, thus, some equivalence between the notion of illocutionary force and Katz and Postal's proposals, as has been pointed out by, for example, Boyd and Thorne (1969). An important similarity implicit in their proposals is the reference to the 'persons of the modality'. The importance of person with respect to the primary, illocutionary, modalities is summed up by Lyons: "every language utterance is made in a particular place and at a particular time: it occurs in a certain spatio-temporal situation. It is made by a particular person (the speaker) and is addressed to some other person (the hearer): the speaker and the hearer are typically distinct from one another ... and moreover are typically in the same temporal situation. ... We will further assume that the typical utterance includes a reference to some object or person (which may or may not be distinct from speaker or hearer, cf. Have you finished yet?: Has he finished yet? etc.)" (1968:275). We may note, in Lyons account, that a given speech act is located in 'a certain spatio-temporal situation'.

The notion of illocutionary force, with its implications for the person and time of the speech act, are implicit in Katz and Postal; in some more recent work, the notion has been more explicit. Thus Householder (1971: Chap. 6) discusses whether there can be any form of predication without illocutionary force, and concludes that this is impossible in independent sentences, though it may be possible in some types of subordinate clause. He goes on to offer as the first rule of a grammar (and this is offered

as, at least implicitly, a 'universal'):

4. $U \rightarrow S + \text{Ill} (+\text{Qu})$.

The rule is glossed: "an utterance may be questioned or not, but it must be given an illocutionary mark" (1971:94). ILL is developed into Assn and Will, which seem to be roughly equivalent to my ASS and COM; S is developed rather as I propose to develop my Prop:¹ However, although Householder refers to 'illocutionary force' the implications of his treatment of the category is that it is to be considered as

-
1. One major difference between my proposals and Householder's is that he proposes to recognise two 'primary modalities' - Assn and Will, and each may be questioned. For me a questioned command, and indeed a questioned assertion, are regarded as embedded illocutions rather than the analysis Householder's rule implies. And furthermore a 'question' is regarded as a different modality from a questioned assertion. Nor is Householder the only person to propose only two 'primary' modalities. Boyd and Thorne (1969) postulate only two for English: they contrast assertions to questions and commands, where questions are a sub-type of commands. We have already noted that Searle offers four basic types of 'speech act' (cf. discussion in II.2).

A further interesting notion of Householder's is that "possibly Excl(amation) belongs here (i.e. in rule 4) as an alternative to Ill + Q". This account of exclamatory sentences is appealing. We have already noted (cf. II.1) that Christaller included exclamations as one of his 'Kinds of Sentence'. The traditional account of exclamations and exclamatory sentences has often treated them as different in nature from either the other 'parts of speech' or 'sentence types' (cf. discussion in Brøndal, 1948, for example). We may also note the way Williamson treats 'vocatives' and 'exclamations' in her grammar of Ijo (1965). She introduces them by means of the first rule of the grammar:

$$S \rightarrow \begin{pmatrix} \text{NP} & \text{P} \\ \text{Voc} & ! \\ \text{Inj} & ! \end{pmatrix}$$

where NP P develops into the major sentence types including, by transformation, interrogative and imperative sentences; and expansions of Voc ! and Inj ! lead to vocatives and exclamations respectively. Cf. also the review of Williamson by Smith (1966) where there are further remarks on the question.

Exclamations and exclamatory sentences are not discussed further here.

a marker, rather similar in status to Katz and Postal's markers: he remarks that it is 'certainly' a feature, and it seems that he does not wish to develop, within the grammar, the notions of the person and time of the illocutionary act.

Rather similar proposals are offered by Seuren (1969). His first rule of grammar is:

5. Sent → SQL + Prop.

SQL is then developed as either ASSertion, IMPerative, QUEStion or SUGGestion.¹ Seuren's treatment of SQL is basically similar to that proposed by Katz and Postal and Householder: ASS, IMP etc. are apparently to be considered as in some sense 'features' of the sentence, which have a semantic interpretation: "the idea of postulating a sentence qualifier IMP (I request you that ...) is intuitively appealing" (1969:127). The gloss, in brackets, is apparently a semantic reading of the feature IMP.

Not all linguists consider illocutionary force to be a 'feature': some have postulated that the underlying structure of a sentence contains an 'actual' sentence expressing the illocutionary force and persons of the illocution: the proposition is then seen as subordinate to, and embedded within, the illocutionary sentence. Thus Boyd and Thorne (1969) propose to deal with the English sentence you will go by "postulating two sentential elements:

-
1. It will be noted that Seuren offers four illocutionary markers: the fourth, SUGG, leads to such sentences as, in English, 'You are going to the cinema, aren't you?': cf. Bolinger's 'conducive questions' (Bolinger, 1960). In Twi 'conducive questions' may be considered as a sub-type of the question illocution. It may also be noted that Seuren does not consider that this list is 'a complete categorisation of the category of operators' (1969:134).

one carrying the illocutionary potential of the sentence, the other what might be termed its 'propositional content'. Thus, their analysis of you will go is in terms of an underlying structure which they represent as I imp you You go (1969:59). Boyd and Thorne's analysis is not, however, offered as an underlying syntactic structure (as is the case with Householder, Seuren etc.), but as an 'ad hoc notation' (p. 59) of the semantic representation of the sentence.

Ross (1969) goes further. He builds on Austin's (1962) distinction between constative and performative sentences. Constative sentences are those like:

6a. Prices slumped

b. Even Rodney's best friends won't tell

'which can be true or false'. Performative sentences are those like:

7a. I promise you that I won't squeal

b. I order you to go

"which have, instead of truth values, various conditions pertaining to appropriateness of use. Thus, ... the uttering of (7a), whatever the intentions of the utterer, can constitute a promise, whereas the action of uttering (6a) does not constitute a rise in prices" (1969:222). Ross goes on to list some features which he considers to be characteristic of performative sentences: "(they) must have first person subjects and usually have second person direct or indirect objects in deep structure. They must be affirmative and non-negative, they must be in the present tense, and their main verb must be one of the large class of true verbs which includes ... advise, answer, appoint, ask ... " (p. 222). Ross then goes on to take up Austin's

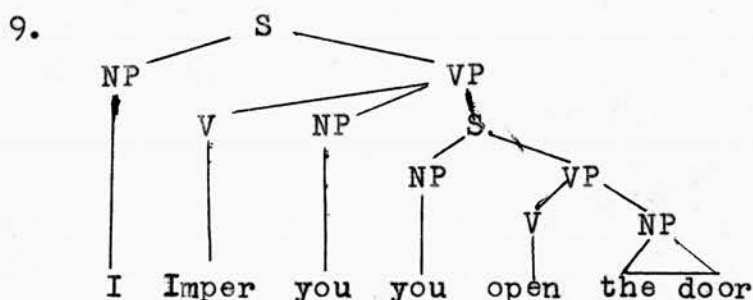
"interesting claim that both of the sentences:

8a. I order you to go!

b. Go!

are performative, ... the only difference is that in (8a) the performative verb is explicit, while in (8b) it is implicit" (p. 223). He then goes on to claim that "there are a number of facts which suggest that Austin's contention that sentences like (8b) contain implicit performatives is to be captured by postulating deep structures for them which are almost identical to the deep structure which has been assumed to underlie the superficially more complex (8a)" (p. 223).

McCawley (1968) follows Ross in postulating that all sentences have performative verbs in their underlying structure. In certain cases the performative appears in the surface as in (8a), in others the performative is deleted, as in (8b). Thus, for example, he represents 'open the door' as deriving from the structure shown in (9).



In such a structure the performative is regarded as a "real lexical item such as ask or tell" (1968:157) which in 'open the door' is deleted by the 'performative deletion rule' "which is a minor rule these verbs are marked as undergoing ... when the sentence (as in the above example) consists of subject verb indirect object and embedded sentence" (p.157).

McCawley is able to argue that ask and tell can be deleted by the 'performative deletion transformation' by virtue of the fact that he considers: '*I tell you to open the door' to be ungrammatical, and consequently 'open the door' "fills the hole in the pattern" for the "structural paradigm" of sentences with performatives in underlying structure. It should be remarked that the 'performative deletion transformation' only applies to structures with the structural description given: thus, if the sentence is modified by certain adverbs (such as 'hereby'), or contains performatives other than ask and tell, the deletion will not apply, and sentences such as 'I hereby ask you to open the door' and 'I promise to give you ten dollars' are generated.

Ross' and McCawley's proposals are made in the context of a 'generative semantic' model of language, in contrast to those of Katz and Postal, Householder and Seuren, which are made in the context of a 'syntax' (more of this distinction in due course) but clearly they have much in common. The Ross/McCawley proposals may be criticised on a number of grounds, not least with respect to the alleged grammaticality or ungrammaticality of some of the sentences cited (at least for my idiolect). However from our point of view their virtue is that they make explicit the person and 'spatio-temporal orientation' of the illocution: a notion which we shall draw on in describing Twi sentences.

An evaluation of these various proposals is best left until we have examined their application to some Twi material. It will however be useful to summarise some of the points made and to indicate the way in which the

discussion will proceed.

Predication and Illocutionary force are to be distinguished: there are, of course, dependencies between them, but it is convenient to distinguish them in description.

All sentences, except perhaps exclamations, are marked for one of three basic illocutionary forces: as an ASSertion QUestion or COMmand.

Illocutionary acts are typically performed by a speaker (ego) to a hearer (tu). They are performed in the present time.

For most sentences the illocutionary force is not overtly marked in the sentence but for some it may be overtly marked by a performative verb.

Some linguists (Katz and Postal, Householder, Seuren) regard illocutionary markers as 'features' of the sentence: these features control certain types of grammatical transformation and also have a semantic interpretation. In such cases notions like the persons of the illocution are often implicit rather than explicit in the description. It is not entirely clear how such proposals would account for performative verbs that actually appear in surface structure.

Other linguists (Ross, McCawley) consider that all sentences have in their underlying structure a lexical verb, or perhaps an 'abstract' verb, which indicates the illocutionary force of the sentence. Under certain conditions this verb may be deleted: when it is not deleted then it is realised as a performative verb.

The position taken here lies between these two views.

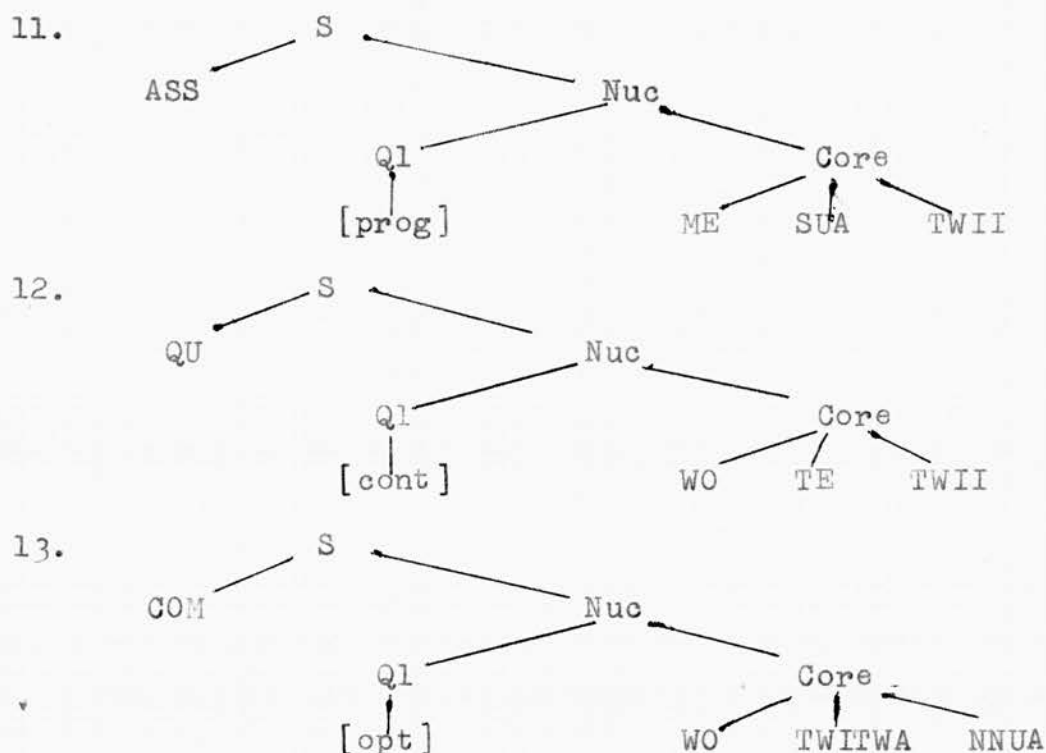
All sentences are regarded as being characterised by an illocutionary marker, which is regarded as a feature. Under certain conditions this marker may be lexicalised, in this case a performative verb is found in surface structure: performative verbs are thus thought of as 'spelling out', or making overt, the nature of the illocutionary force of the sentence. Under other conditions the marker may not be lexicalised, and then there is no overt illocutionary mark in the sentence. This proposal involves distinguishing between what I have thus far called, and will continue to call, underlying structure (all the tree structures we have so far examined) - this is a structure expressed largely in terms of features - and syntactic structure, which is interpretative of underlying structure and is expressed largely in terms of categories. The relationship between the different kinds of structure will become apparent as the discussion proceeds.

Twí sentences may be classified as assertions, questions or commands, and these frequently correspond to indicative, interrogative and imperative sentence structures. Thus, sentences such as:¹

- 10a. meresua Twii (I+prog+study Twi: I am studying Twi)
- b. wote Twii anaa? (you+(cont)+understand Twi
question: do you understand Twi?)
- c. twitwa nnua no ((opt)+cut wood the: cut up the
firewood)

1. It is to be hoped that by now the morphological analysis of Twí examples will be clear to the reader, and it will be abandoned, except in cases where it is felt the reader might welcome it. English 'dog' glosses will similarly be simplified as seems practicable).

may, following the outline given in the previous section, be said to be derived from the underlying structures (11) - (13).



The forms (10) are derived by transformation from the structures (11-13). For our present purposes the most important point to be noted about these structures is that the illocutionary markers are in construction with the various propositions: they do not dominate them. A constituent may be said to be in construction with another constituent, when they are both immediately dominated by some third constituent. Thus in (11) ASS and Nuc are in construction with each other (dominated by S); Q1 and Core are in construction (dominated by Nuc); but neither Q1 nor Core are in construction with ASS, nor are they in construction with Nuc which immediately dominates them.¹

1. Cf. Klima's definition of 'in construction with': 1964:297.

We may now define the scope of the illocutionary marker as that constituent with which it is in construction. Let us for the present regard the illocutionary marker as a trigger of the relevant structural change in the constituent with which it is in construction. The transformational cycle that will yield the sentences (10) from the structures (11-13) will then include a transformation that will incorporate the tense/aspect marker (noted under Q1) within the verb word; the COM transformation, which in cases where the subject of the nucleus is second singular, will delete the subject pronoun and aspect marker; the QU transformation will suffix the question marker anaa, or an intonational modification represented as (↓). ASS has no implications for structural change: it is partly for this reason that indicative sentences may be described as 'unmarked'.

Let us now consider some sentences that have overt performative verbs, rather in the manner described for English by Ross and McCawley. Typical examples are:

- 14a. mese meresua Twii (I+(hab)+say I+prog+study Twi)
I say that I am studying Twi)
- b. mebisa wo se wote Twii anaa (I+(hab)+ask you that
you+(cont)understand Twi question: I ask
you whether you understand Twi)
- c. mehye wo se twitwa nnua no (I+(hab)+order you that
(opt)+cut wood the: I order you to cut up
the wood)

It will be noted that person and time in these sentences correspond with the conditions on performative sentences noted above. Similarly, if these sentences are compared with the corresponding sentences (10), it will be seen that each pair of sentences has the same illocutionary force, the

(a) sentences are assertions, the (b) sentences questions and the (c) sentences commands. The performative verb may be regarded as, as it were, overtly spelling out the illocutionary force. It is true that, with the possible exception of (c) the sentences (14) are contextually somewhat unlikely as, indeed, are the English glosses (as may perhaps be inferred from McCawley's dubious assertion that *I tell you to open the door is 'ungrammatical'). This is perhaps hardly surprising since in each case the speaker is understood to be calling attention to the particular kind of utterance he is making, i.e. 'spelling it out' overtly: a perfectly plausible state of affairs and one which is perfectly contextualisable, but not, perhaps, with the given sentences, particularly common.¹

Note, furthermore, that the 'main' verb in each sentence is formally indicative (se, bisa, hye), but that the embedded sentence, i.e. that portion after the complementiser se, is formally indicative, interrogative and imperative respectively, and identical to the corresponding sentence in (10). In this respect Twi differs from English, and offers more

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1. It may be observed that the Twi translation of the Bible offers many examples of just this kind of sentence -

Nso mese mo se mommisa na wobema mo... (And I+(hab) say you(pl) that you(pl)+opt+ask and they+fut+ give you(pl): And I say unto you, ask and it shall be given ... (Luke 11.9)

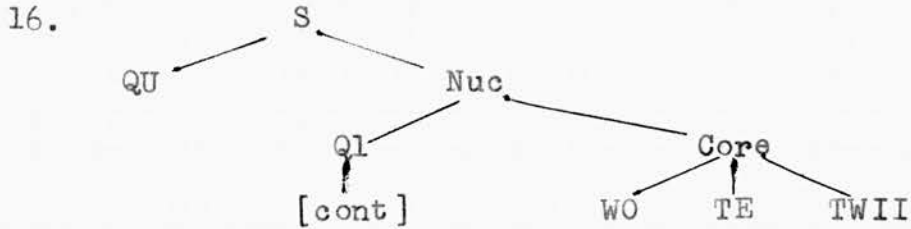
Enna Iesu buae na esee won se: Nokware, nokware, mese mo oba no ankasa ntumi mmo ne tirim nye hwee ... (then Jesus answer+pret and he+say+pret them that Truly, truly, me+(hab)+say you(pl) child the himself (hab)+neg+able (hab)+neg+beat his head (hab)+neg+do anything: Jesus therefore answered and said unto them: Verily, Verily, I say unto you that the son can do nothing of himself ... (John 5.19).

convincing support for a 'performative' analysis.

Let us now enquire into the structure underlying the sentences (14). It will be recalled that the structure underlying:

15. wote Twii anaa? (you+(cont)+understand Twi question:
Do you understand Twii?)

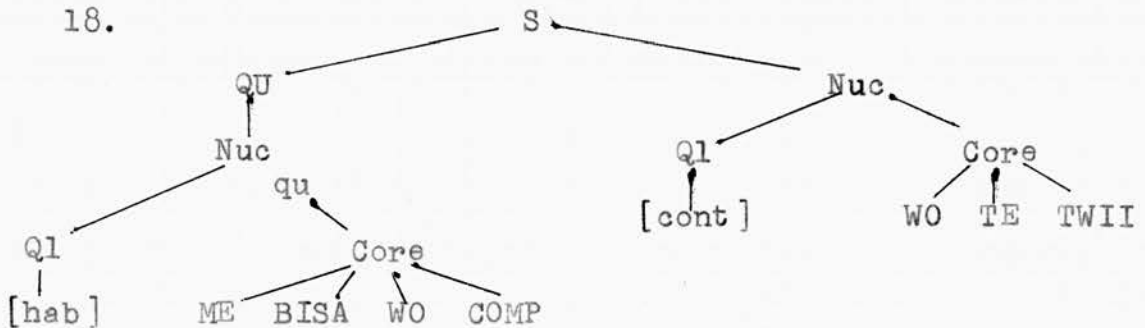
is shown in (16).



It is proposed that the structure underlying:

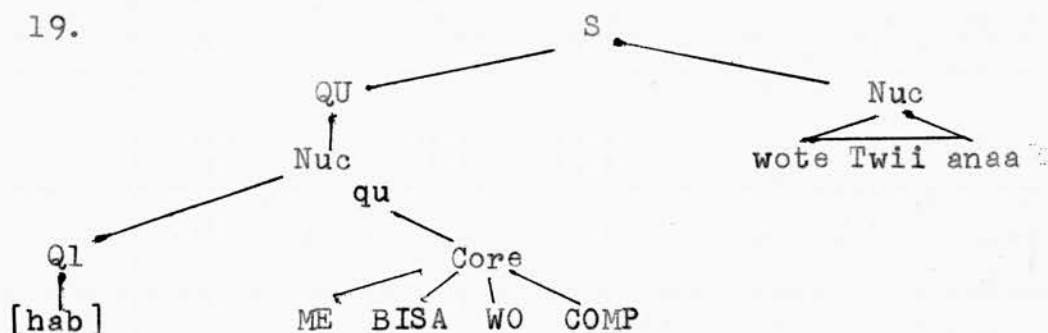
17. mebisa wo se wote Twii anaa (I+(hab)+ask you that you+
(cont)+understand Twi question: I ask you
whether you understand Twii)

is that represented in (18).



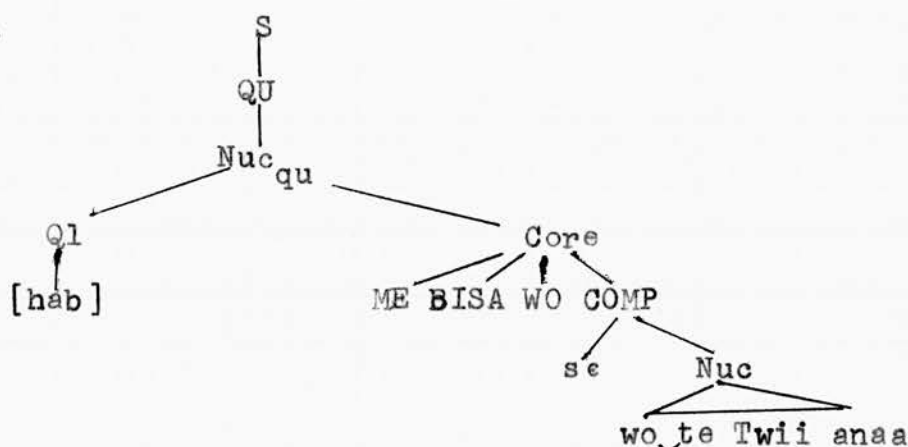
Except for the development under the node QU, this structure is identical to the structure (16). We have already observed that the portion of (17) after the complementiser se is identical to the sentence (15), it is therefore supposed that the effect of QU in (18) is identical to its effect in (16) - it triggers off the relevant structural change in the constituent with which it is in construction. Thus, after the operation of the 'QU transformation' we have the derived structure (19).

19.



We will now suppose that a 'complementising transformation' embeds the nucleus as the complement of BISA, yielding the structure (20).

20.

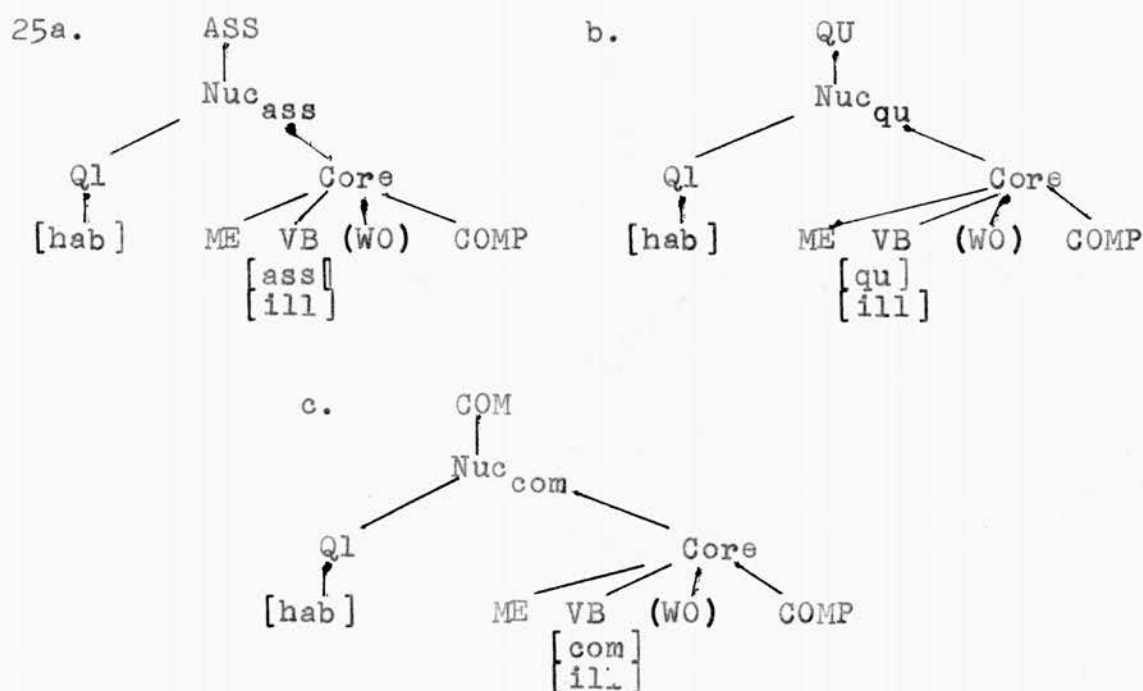


Various operations on this sentence then yield the form (17).¹

Comparable structures are postulated to underlie ASS and COM sentences. Thus, underlying:

1. It may in fact be observed that (17) is ambiguous as between the reading given: 'I ask you whether you understand Twii' and another reading: 'Do I ask you whether you understand Twii?'. It is only the former reading with which we are concerned here: the structure underlying the latter reading will be examined in due course. Many performative sentences are subject to the same sort of ambiguous reading, and this makes their analysis particularly tricky. We may note, with sympathy, Ross' remark that sentences like I promise you that I won't squeal are ambiguous. Under one reading the uttering of the sentences constitutes a promise (i.e. it is performative), under the other it "describes a habitual action of the utterer I make promise after promise to you that I won't squeal. In this latter sense, the sentence ... is declarative, and does not differ in any significant way from (other declaratives)" (1969:26 l fn2). It will, of course, be clear that, like Ross, I am only concerned with the performative reading of sentences like (17).

Q1 must be realised as pres; Nuc must be developed to dominate an obligatory first person subject and an optional second person object.¹ It must also dominate a verb which must be one of the verbs that may be used as a performative, and must furthermore be a verb that is a question performative; We shall thus mark the verb node as Vb_{ill}, qu and such a node may be lexicalised by a verb like BISA (a question verb), but not by a verb like HYC (which is a 'command verb', when it is used as a performative). The Nuc must also contain a COMP node: this may be regarded as a 'dummy' node, beneath which the propositional nucleus will eventually be embedded (cf. 20 above). The development of ASS, QU and COM illocutions may then be represented schematically as shown in (25).



1. Not all performative verbs require objects: for instance verbs like SUSU 'wonder' do not take objects, but may, nevertheless be regarded as performative verbs. This point is taken up again later in this section.

It will be noted that the performative verb is not itself in construction with an illocutionary marker - rather it is dominated by a marker. This follows from our hypothesis that the performative verb is a means of 'spelling out' the value of the illocution, or making it more specific. Since performative verbs are held to realise illocutionary markers, they can hardly be placed in construction with illocutionary markers. The syntactic relevance of this fact is that performative verbs are realised, as in the examples given, in the unmarked, i.e. indicative, form: this may be held to follow from the fact that they are not in construction with illocutionary markers, since, as we have noted, the scope of the QU and COM transformations is defined as the nucleus with which the marker is in construction. It is a characteristic of performative verbs that they must be indicative.

This discussion forces us to reconsider the postulated structures (11-13) which have illocutionary markers which are not further developed into illocutionary nuclei. Should they too not have a developed illocutionary nucleus which is completely deleted before the sentence reaches its final form? Certain advantages do in fact flow from doing this. It makes explicit the person and time of the illocution. More importantly, from the point of view of the syntax, it makes the statement of co-occurrence restrictions easier, since they become more general: cf. Ross 1969 for discussion of these points in English. The only such co-occurrence restriction we shall consider in this section is that between command illocutions and propositions, and the co-occurrence

restrictions here are clearly easier to state, as we shall see in (55) below. Other advantages we will consider as they present themselves.

If, however, the illocutionary nucleus is developed how do we distinguish between those cases where the illocutionary verb is realised and those where the illocution is not realised overtly. We have already noted that some linguists, e.g. McCawley, propose that in all cases the underlying structure contains an actual verb. By virtue of the fact that McCawley considers 'I tell you to open the door' ungrammatical, he can consider that it is this verb that is actually present in the underlying structure of sentences where the illocutionary verb does not appear overtly: i.e. that a performative deletion rule will obligatorily delete the substructure 'I tell you to' in the above sentence, yielding the grammatical 'open the door'. Such a proposal does not seem workable for Twii since there does not appear to be an analogous case in the language. Furthermore, it seems to me more desirable to suppose that in the derivation of two sentences like:

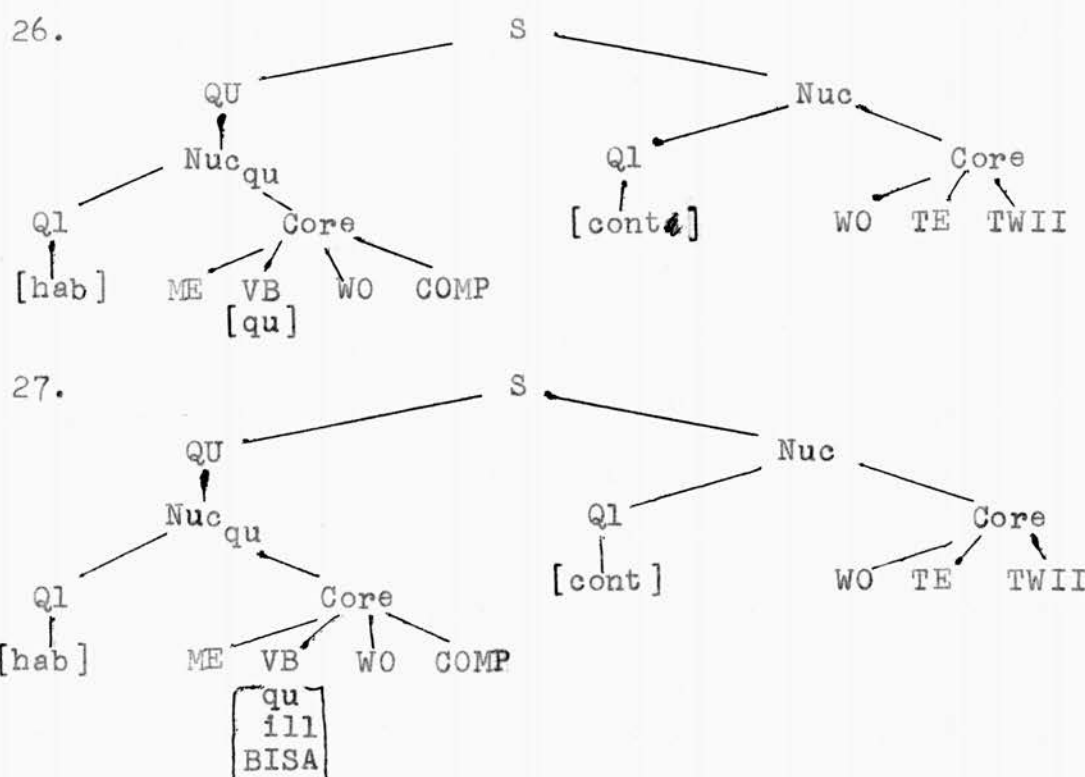
10b. wote Twii anaa? (you+(cont)+understand Twii question:
Do you understand Twii?)

17. mebisa wo se wote Twii anaa (I+(hab)+ask you that...:
I ask you whether you understand Twii)

whereas both sentences have underlying illocutions, in (10a) the illocution is not realised in the surface because the illocutionary verb is not lexicalised, but in (17) the illocutionary verb is lexicalised and hence is realised in the surface. Such a proposal is in line with the earlier suggestion that illocutionary verbs make explicit or more

precise the value of the illocutionary act.

So it is therefore proposed that the feature ill subscripted to the illocutionary verb node in the representations (25) is to be regarded as an optional feature. If it is present then the verb node will be lexicalised; if it is not present then the verb will not be lexicalised, and the substructure will not be realised. Thus, the underlying structures proposed for the above two sentences are represented in (26) and (27).¹



In (26) the verb is not marked as ill, hence the entire substructure is not realised in the surface: in (27) the

1. There are clearly points about these structures that have not yet been fully explained. In particular the present proposal involves subscripting verbs with features. We are not yet in a position to account for such a proposal within the description, and the reader's indulgence is claimed. It may, however, be convenient to suppose that the verbal subscripts refer to 'process classes' of verb (in the sense of Halliday, 1967).

verb is marked as ill hence must be lexicalised, and therefore the substructure must be realised in the surface. This proposal will also allow us to define those circumstances in which the verb must be realised - i.e. we can state that in such and such an environment the illocutionary verb must be realised, in such an other environment it may be realised, and in other environments it may or may not be realised.

Before we return to discuss further material a further distinction should be made. Verbs such as SE, HYC and BISA have been referred to both as illocutionary and as performative verbs: a distinction is now made between these two terms. The term illocutionary verb will be used of any verb that is the verb of an illocutionary nucleus. However, when the illocutionary verb is developed from the primary, i.e. the superordinate, illocution, as in all the cases thus far discussed, it will be referred to as a performative verb. In cases where illocutions are embedded in illocutions, which we shall come to consider, only the illocutionary verb that realises the primary illocution is performative: the other verbs are simply illocutionary verbs. Thus, in the sentences:

- 28a. wote Twii anaa? (you+(cont)+understand Twi questions:
Do you understand Twii?)
- b. mebisa wo se wote Twii anaa (I+(hab)+ask you that:
I ask you whether you understand Twii)
- c. mebisaa wo se wote Twii anaa (I+ask+pret you that....:
I asked you whether you understand Twii)

in (a) the primary illocution is not realised at all; in (b) the primary illocution is realised and BISA is referred to as a performative; (c) involves the embedding of an

illocution within an illocution, the primary illocution is not realised, and BISA, which realises the embedded illocution is described as an illocutionary (and not as a performative) verb. (28c) is discussed in detail below.

Let us now examine some other performative verbs. The implication of the summary below is that all performatives are 'basically' sub-types of one of the three major illocutionary forces. Let us examine this claim on two scores, the formal and the contextual. Consider the following sentences:

- 29a. metu wo fo se sua adee (TU FO 'advise': I+(hab)+
advise you that (opt)+study thing: I
advise you to study)
- mesere wo se fa firi me (FA FIRI 'forgive': I+(hab)
+beg you that (opt)+forgive me) | beg ym to
forgive me).
- b. menim po se Kofi aba anaa (NIM PO 'wonder': I+(cont)
+wonder that Kofi perf+come question: I
wonder whether Kofi has come)
- mebisa se wate asee anaa (I+(hab)+ask that you+
perf+understood thing question: I ask
whether you have understood)
- c. megye tom se maye bone (GYE TOM 'admit': I+(hab)+
admit that I+perf+do evil: I admit that I
have done wrong)
- mehye wo bo se meba anadwo yi (HYE BO 'promise':
I+(hab)+promise you that I+fut+come evening
this: I promise you that I will come this
evening).

These sentences fulfil the conditions for performatives laid down above.¹ Formally too they resemble the sentences (14): the complements in (29a) are imperative, in (29b)

1. For our immediate purposes it will be convenient to regard items like TU FO, NIM PO, GYE TOM as 'complex lexemes'. Complex lexemes are discussed further in Chapter 3. This analysis does not affect the issue here.

interrogative, and in (29c) indicative. the ~~per~~ performative verbs are all indicative. It is assumed therefore that the underlying structures for these sentences are closely similar to those offered for the sentences (14): They differ of course in the structure of the propositional nucleus and the selection of the performative verb. Formally, therefore, there is a case for considering performative verbs to be classified into three major classes corresponding to the three major illocutions.

It was suggested above that the use of a performative 'spelled out' the illocutionary force of the sentence, or made it more specific. The sense in which this is claimed may be illustrated by examining the following sentences:-

- 30a. meko (I+fut+go: I will go)
- b. meka kyere wo se meko (KA KYERE 'tell': I+(hab)+
tell you that I+will+go: I tell you that I
will go)
- c. mehye bo se meko (HYE BO 'promise': I+(hab)+
promise that I+fut+go: I promise that I
will go)

The first is a simple declarative sentence. Contextually it might be uttered and understood as a statement of fact, a prediction, a statement of intention, a promise, etc., and the context of situation, either syntactic or linguistic might make it clear that the utterance was intended by the speaker and accepted by the hearer as any of these. The second, again a declarative sentence, is considerably more forceful, though is still not, linguistically, highly specific. The third, on the other hand, while still declarative is also a promise: it cannot be taken as a prediction or a statement of intent, except insofar as these

are considered to be part of a promise. The use of the performative, in fact, may be said to specify somewhat more precisely than either the first or the second, that a promise is being given. From a semantic point of view indeed one might suggest that HYE BO 'promise' is a hyponym of KA KYERE 'tell etc.', in rather the same way that one might assert that DBARIMA 'man' is a hyponym of ONIPA 'human being': in both cases the one is semantically more specific than the other. Furthermore, one might claim, that both the performative verbs are hyponyms of ASS, a feature that, without further additional specification, cannot be realised directly in the surface rather in the way that one might assert that + animate was superordinate to ONIPA 'human being' but cannot be realised in the surface. This is basically the position taken here: a sentence must be characterised by an illocutionary force marker: this marker may be lexicalised, in which case there is a tendency for the lexically more specific item to be somewhat more acceptable than the lexically highly general item (cf. discussion following (14)): on the other hand the illocutionary marker may not be lexicalised, in this case its only effect on the sentence is in terms of the transformations it may trigger off. A further interesting correlate of this position is the fact that the lexically least marked performatives may be the realisation of any of the three illocutionary forces, as can be seen from the syntactic structure of the complement, thus SE 'say':¹

1. It may be noted that SE generally undergoes "se deletion", i.e. deletion of the complementiser; cf. the parallel process in English "I say (that) you must go to school".

31. mese onte borɔfo (I+(hab)+say he+neg+(cont)+understand English: I say he doesn't understand English)

mese kɔ sukuu (I+(hab)+say (opt)+go school: I say that you must go to school)

mese worekɔ sukuu anaa (I+hab)+say you+prog+go school question: I ask whether you are going to school)

A slightly more specific performative may appear in two illocutions:

32. meka kyere wo se mempe se mekɔ (KA KYERE 'tell': I+(hab)+tell you that I+neg+(hab)+like that I+fut+go: I tell you that I don't want to go)

meka kyere wo se kɔ (I+(hab)+tell you that (opt)+go: I tell you to go)

but not:

33. *meka kyere wo se wokɔ anaa

The most highly specific performatives generally appear with only one of the three principal categories of illocutionary force:

34. metu wo fo se sua adee (I advise you to study: cf. 29a)

megye tom se maye bone (I admit that I have done wrong: cf. 29c).

Before going on to consider further conditions under which performatives appear in the surface, it may be as well to clarify the linguistic status claimed for illocutionary markers. It is, of course, a controversial question whether sentences, rather than utterances should be distinguished with respect to illocutionary force (cf. Bar-Hillel, 1970). There is no need for us to get embroiled in this question here. If the distinction between sentences and utterances is drawn along the lines proposed by Bar-Hillel

(but cf. Garner, 1971, for a discussion of some of the confusion surrounding these terms in the philosophical and linguistic literature), it must be granted that a declarative sentence can be uttered, not only to make a statement, but also to ask a question, that an interrogative sentence can be uttered to give a command, and so on. Our main concern here is with the syntactic form of sentences; and we will continue to assume that there is an 'unmarked' relationship between declarative sentences and statements, interrogative sentences and questions etc. Thus, for example, it seems clear that a sentence such as (30a) could, as an utterance, be intended, and taken, as a promise.

It is obvious that there are alternative ways of describing the underlying structure of sentences whose syntactic form is, in terms of the 'unmarked' relationship noted above, at variance with the illocutionary force with which they are uttered. In the present state of linguistic theory it is unclear which of these alternatives should be adopted. If the reader prefers, he may look upon our categories of illocutionary force as purely syntactic markers (comparable to, but somewhat different from, the imperative and interrogative markers in Katz and Postal, 1964) having of themselves no necessary implications of utterance. Indeed, since in this description context is not considered in any great detail, it would be unrealistic to suppose that any attempt was being made to characterise utterances rather than sentences.

So let us return to a consideration of performative verbs, and circumstances other than those we have already

noted (the affirmation or further specification of illocutionary force) when performatives appear in the surface. First we consider briefly three circumstances: where the illocutionary verb is modified by an appropriate adverb, where some constituent is clefted, and where the illocutionary force is negated. The first case can be exemplified with a sentence such as:

35. mebisa wo bio se wote ase: anaa (I+(hab)+ask you again that ...: I ask you again whether you understand)

The clefting of some constituent of the illocutionary act is another case where we may suppose that its contextual purpose is to draw attention to some particular feature of the illocution performed. Thus either the persons of the act may be clefted:

36. me na mese ko sukuu (me 'it+is' I+(hab)+say ...: It is I who say that you must go to school)

wo na mebisa wo se wote ase: anaa (you 'it+is' I+(hab)+ask ...: It is you I am asking whether you understand)

or the proposition itself may be clefted:

37. nea mebisa wo ne se wotumi femm ne sika bi anaa ('that+which' I+(hab)ask you (cont)+is that you+(hab)+able(hab)+lend me money some questions: What I am asking you is whether you can lend me some money)

The negation of a performative verb may be exemplified by such sentences as:

- 38a. menhye wo bo se meko (HYE BO 'promise': I+(hab)+neg+promise you that I+fut+go: I don't promise you that I will go)

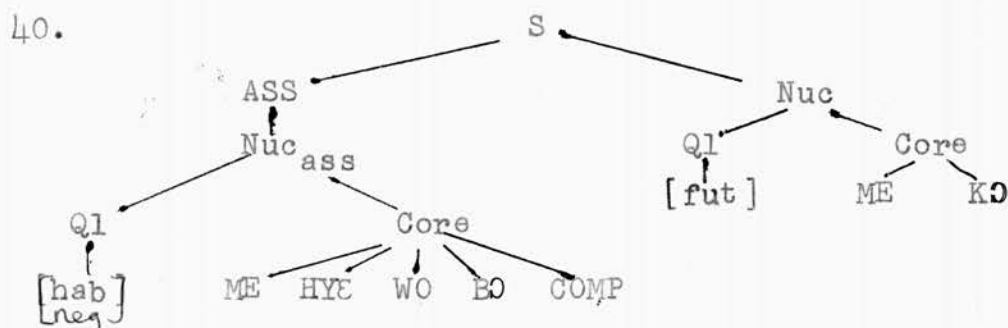
b. mennye tom se maye bone (GYE TOM 'admit' (NB gy → ny/N_): I+(hab)+neg+admit that I+perf+do wrong: I do not admit that I have done wrong.)

In such cases the speaker wishes to make clear that he does not

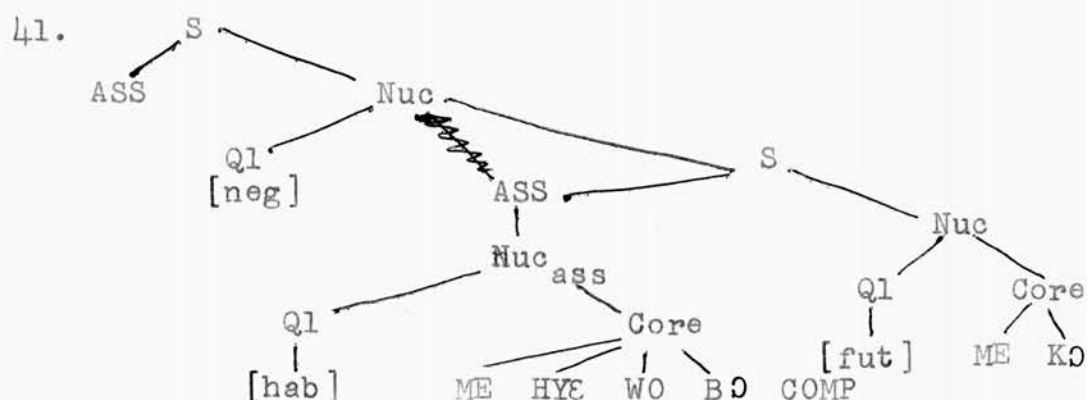
promise or deny what is stated in the proposition. It is clear that there is a distinction to be drawn between the negation of the performative and the negation of the proposition:

39. mehye wo bo se menko (HYE BO 'promise': (I+(hab)+
 promise you that I+(hab)+neg+go: I promise
 you that I won't go)

The assertion that performatives may be negated requires some justification. Some claim that performative verbs must be "affirmative and nonnegative" (Ross, 1969:222). Others will allow performative negation: "A... powerful motivation for making these distinctions is that they enable us to account for and represent the generally overlooked distinction between illocutionary negation and propositional negation. ... Thus the sentence 'I promise to come' has two negations 'I do not promise to come' and 'I promise not to come'. The former is an illocutionary negation, the latter a propositional negation" (Searle, 1969:32. Also note discussion in Searle, 1969: 32-33). It is clear that in the sentences (38) the verbs are negated: the question is whether they may still be regarded as performative verbs in such sentences, or whether it is considered that they are embedded in some superordinate illocution, which in some way contains a negative, so that they are no longer performative verbs in the strict sense used thus far. By the former proposal, which I adopt, it is assumed that sentences like (38a) derive from a structure (40).



where it will be seen that the Q1 of the performative nucleus is negated. (In (39), of course, it is the Q1 of the propositional nucleus that is negated: in this case the Q1 of the illocutionary nucleus is affirmative). The other proposal would, as far as I can see, involve a more complex underlying structure, perhaps of the sort illustrated in (41).



It will be convenient to verbalise these structures in discussion. (40) may be verbalised as 'I not promise that I will go': this is in line with the assertion that performatives like promise are more specific spellings out of the basic illocution, which in this case may be regarded as 'I state'. 'I not promise' indicates the negation of the performative. (41) may be verbalised as 'I state that not that I promise that I will go'. 'I state' verbalises the basic illocution: this must, by Ross' definition to affirmative. Another layer of structure is therefore necessary to introduce the negative, hence '... that not that

...'. An alternative presentation that eliminates the additional layer required for the negative in (41) would be to assign the negative to the embedded assertion nucleus, as in the manner of (40): in this case (40) and (41) would differ only in that (41) has a superordinate ASS. The latter alternative is in fact the preferable, since in (41) HYE B0 is no longer a performative, insofar as it is itself embedded in a further performative, hence there is no restriction on the negation of the verb. In brief, then, the distinction between (40) and (41) is that between the negation of an illocution, and the assertion of a negated illocution: in (40) HYE B0 may be claimed as a performative verb, since it realises the basic illocution (a condition for performative verbs), in (41) HYE B0 is not a performative, since it does not realise the basic illocution. An objection to (41) is that it introduces additional, and superfluous, layers of structure, motivated solely by the requirement that performative verbs may not be negated. Additional complication is not itself an objection and may indeed be necessary if one is committed to the above requirement. I think, however, that it can be shown that, what I shall call the Ross approach, actually leads to an unworkable description. We may start from Ross' own assertion that sentences like 'I promise you that I won't squeal' are ambiguous. They can either constitute promises (when they are performative) or they can be "a description of a habitual action of the utterer, as in 'I make promise after promise to you that I won't squeal'. In this latter sense, the sentence ('I promise you that I won't squeal') is declarative and do(es) not differ in any

significant way from (other declaratives)" (1969:261 fn2).

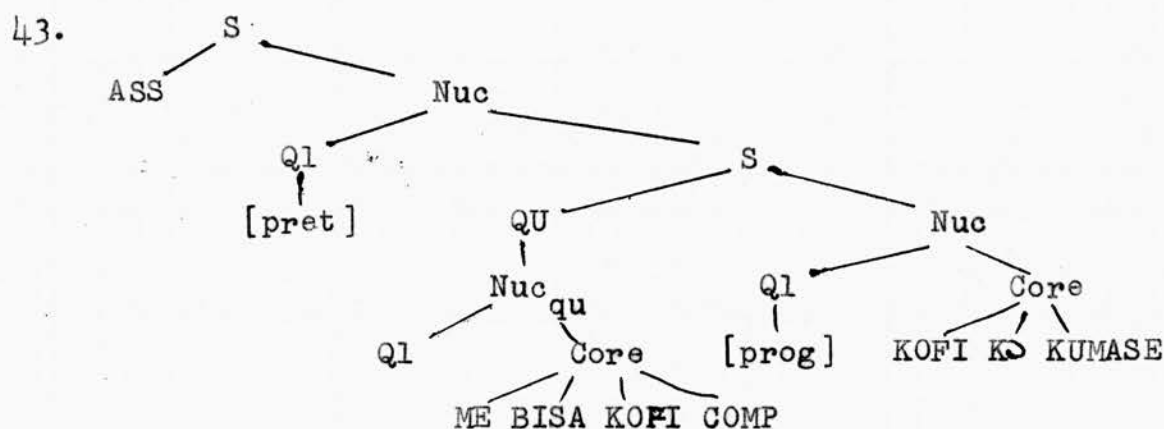
In my verbalisation the two interpretations may be represented as 'I promise you that I won't squeal' (the performative) and 'I state that I promise you that I won't squeal' (the assertion - Ross' declarative). Now consider a negative promise, and a comparable state of affairs. Assuming that the negative promise is also ambiguous, as it is, then Ross would have to analyse the two senses as 'I state that not that I promise ...' and 'I state that I state that not that I promise ...': the reader is invited to verify the structures offered. At this point, while a description would not become actually unworkable, it certainly becomes excessively complex - and unnecessarily so. In this description the negation of an illocutionary verb is considered to be one of the circumstances in which performative verbs appear on the surface.

We now turn to examine cases where illocutions are embedded within illocutions. Such situations are another case where illocutionary verbs must be realised in the surface structure (in these cases the illocutionary verbs are not performative, since they do not realise the primary illocution).

Consider first the sentence:

42. mebişaa Kofi se ɔreko Kumase anaa (I asked Kofi if
he was going to Kumase)

The postulated underlying structure is (43).



The initial development of the sentence, as before, is ASS + Nuc. As a notational convenience for the rest of this section, where the superordinate illocutionary force is not realised as a performative verb, the illocutionary marker will not be further developed. In the case of (43) Nuc is developed as Q1 + S: Q1 gives the reference time of the embedded illocution. Note that the Q1 of the embedded illocutionary nucleus is not developed for tense/aspect. As in the case of the primary illocution (where Q1, it will be recalled, is obligatorily developed as pres) Q1 would be redundantly marked for tense/aspect since this must be the same as that of the dominating nucleus (i.e., in the present instance past) We must, however, allow for the optional development of Q1 as negative. This will allow us to distinguish between:

44. nnora mammisa no se ... (yesterday I+pret+neg+ask
him that: I didn't ask him to ... yesterday)

and

45. enye nnora na mebisaa no se ... (it+(cont)+neg+is
yesterday: 'it+is' I+ask+pret: it wasn't yesterday
that I asked him to ...)

i.e. the difference between 'yesterday, I didn't ask him ...'
and 'It wasn't yesterday that I did ask him ...'.

When illocutions are embedded, restrictions on the person of the illocution are relaxed: the subject need no longer be ME nor the object WO (But note restrictions on COM sentences still apply, and are discussed in (55) below). In (42) the embedded subject is, by chance ME, but consider sentences like:

46. Kofi bisaa me se me ba no aba (Kofi ask+pret me that my child the perf+come: Kofi asked me if my child had come)

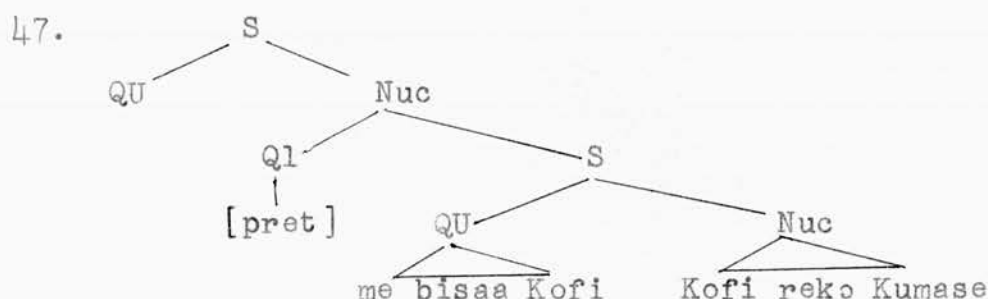
Kofi bisaa me ba no se ne maame wo fie no mu (Kofi ask+pret my child the that his mother (cont)+be house the inside: Kofi asked my child if his mother was at home).

It will also be noted that the structure of (43) includes within it a representation, subject to the change of person, of the illocutionary act that is being reported: the question I asked Kofi was woreko Kumase anaa? and this can be re-constructed from (43).

The transformational cycle leading from (43) to (42) may be inferred from previous discussion: the most deeply embedded propositional nucleus becomes interrogative (it is in construction with QU) yielding Kofi reko Kumase anaa (cf. (19)); this becomes the complement of BISA (cf. (20)); the tense marked on the superordinate propositional nucleus is realised on the main verb of the embedded S; after pronominalisation of the embedded mention of KOFI, we have (42).

We may now observe that, in fact, (42) is ambiguous between the reading given 'I asked Kofi if he was going to Kumase' and a reading 'Did I ask Kofi whether he was going'. The underlying structure of this reading may be diagrammed,

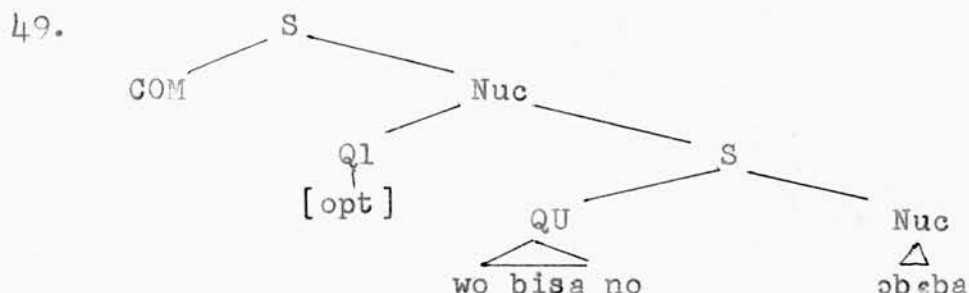
in brief, as (47).



(The structure of the embedded S is identical to that proposed for (43) and is therefore only schematically represented). The derivational process is identical to that outlined above except that the superordinate QU will now trigger off another question transformation on the superordinate propositional nucleus. This will yield a structure we may represent as *mebisaa Kofi se reko Kumase anaa anaa. A later rule deletes all but one of a series of question markers.

The embedding of illocutions within illocutions yields a variety of sentences and offers a potentially rich field of ambiguity. First consider sentences like:

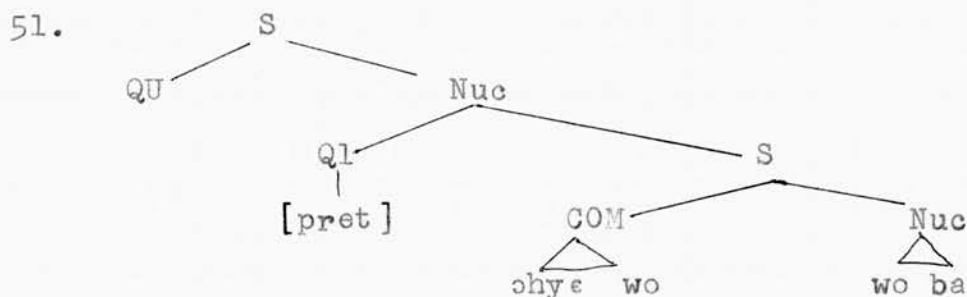
48. bisa no se obeba anaa (Ask him if he is coming)
which is a question embedded in a command, illustrated schematically in (49).



(note that the conditions for commands are fulfilled: it is in construction with an optative and the subject of the constituent sentence is second person.)

Or again:

50. ^achye wo se bera anaa (Did he order you to come)
 which is [command embedded in a question, shown in (51).

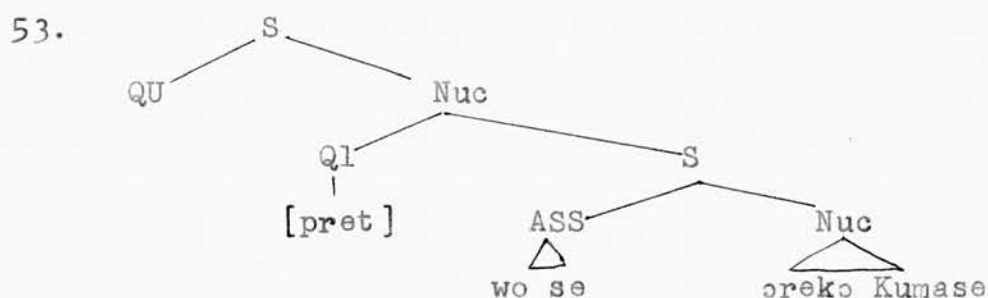


(Note again that the conditions for commands are fulfilled:
bera is the suppletive imperative form of BA 'come').

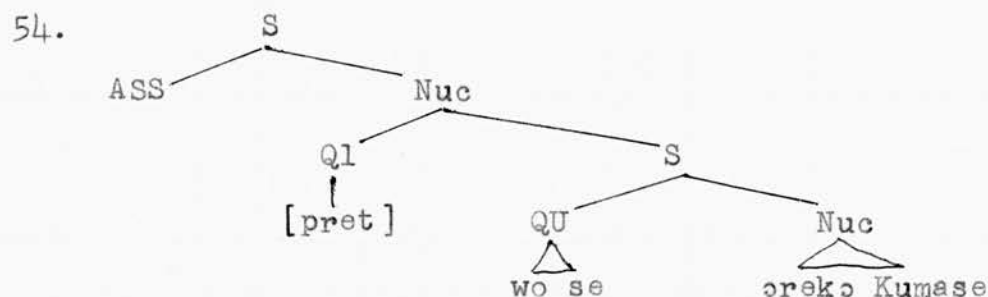
A case of multiple ambiguity may be seen in:

52 wose oreko Kumase anaa.

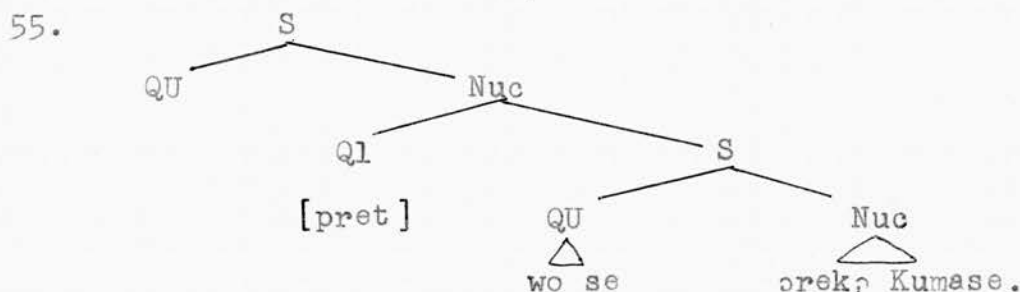
This may be understood as either an assertion embedded in
 a question: 'Did you say he was going to Kumase?' (cf. 53).



or as a question embedded in an assertion: 'You asked
 whether he is going to Kumase' (cf. 54).



or as a question embedded within a question: 'Did you ask
 whether he is going to Kumase?' (cf. 55).



The surface ambiguity of (52) resides in whether the question marker is a constituent of the matrix sentence (as in (53), of the constituent sentence (as in (54)), or of both, as in (55)).

The embedding of illocutions is a recursive process.

Thus the following may be compared with (40,50):

56a. chyee wo se bisa Kofi se abeba anaa (He+order+pret
you that (opt)+ask Kofi that he+fut+come
question: He ordered you to ask Kofi if he
was coming OR Did he order you to ask Kofi
whether he was coming?)

b. bisa no se chyee Kofi se ammera anaa ((opt)+ask him
that he+order +pret Kofi that he+opt+come
question: Ask him if he ordered Kofi to come)

It will be observed that the most deeply embedded verb in (56b), which is the complement of a command illocutionary verb (HYC 'order'), is not in the second singular imperative. We now turn to examine such cases. There are two conditions for the command illocutionary force:

57. (i) The Ql of the nucleus which is in construction with COM must be opt (i.e. in the optative verb form - these forms are discussed in more detail in Chapter 3).

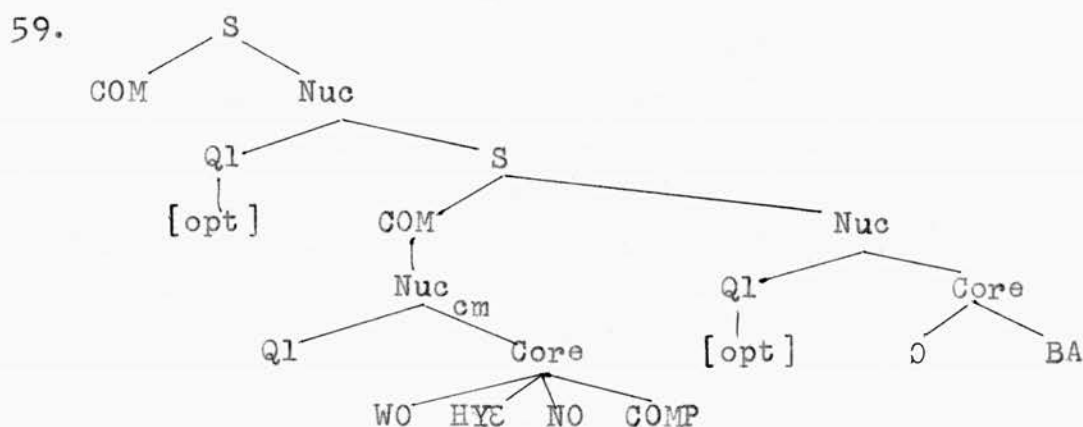
(ii) The subject of the nuclear core which is in construction with COM must be co-referential with the object of the illocutionary nucleus COM dominates)

In sentences such as (23,24), which fulfil these two conditions, the illocutionary core is a realisation of a primary illocution,

and hence by definition, its object must be second person: and, thus, by (57(ii)) the subject of the propositional core must also be second person. The resultant verb form has thus always been a 'second person imperative'. When illocutions are embedded within illocutions, however, the restrictions on the person of the illocutionary core is relaxed (cf. discussion following (43)). Thus we will find cases, such as (56b) where the object of the command illocutionary verb is third, rather than second person. In such cases, by (57(ii)) the subject of the associated proposition must also be third person. This may be illustrated by the following sentence:

58. hye no se ommera ((opt)+order him that he+opt+come:
order him to come!)

which is an imperative embedded within an imperative. The underlying structure is (59).



This fulfils all the conditions (57). The Q1 of Nucs in construction with COMs are opt. The superordinate COM is not developed here, but since this is the primary illocution the subject is ME and the object WO: neither are realised in the sentence (58). The subject of the subordinate COM is identical to that of the object of the superordinate COM;

similarly the subject of the subordinate Nuc is identical to the object of its associated COM. i.e. the conditions in (57) are observed.

The transformational cycle that yields (58) from (59) may be outlined as follows: The verb of the most deeply imbedded Nuc becomes optative, as specified: ommaera. The command transformation operates: since the verb is third person neither subject marker nor aspect marker is deleted. ommaera is embedded as COMP of HYE: *wohye no se ommaera. The main verb of the next Nuc becomes optative as specified: *wonhye no se ommaera. The command transformation operates: since the verb is second person, the subject marker and aspect marker are both deleted: hye no se ommaera, i.e. (58). This account may be compared with the account given for 'second person imperatives in the discussion of (13).

From this account we shall expect to find 'indirect' imperatives in all persons, as indeed we do:

60. ofree me se memmera (He+call+pret me that I+opt+come:
He called me to come)

ofree wo se bera (He called you to come)

ofree no se ommaera (He called him to come)

ofree yen se yemmera (He called us to come)

etc. On the other hand we will not find:

61. *ofree me se bera (*He called me that you should come)

*ofree no se memmera (*He called him that I should come)

since such sentences conflict with the restrictions (57).

Finally we may note that the sentences we have just been discussing may under the appropriate conditions have a performative verb, as for example in a sentence such as:

62. mebisa wo se wohyee Kofi se onko Kumase anaa (I ask
you whether you ordered Kofi to go to Kumase).

This completes our initial discussion of illocutionary force.

II.3 The nucleus:

The nucleus, as we have already noted, is considered to have a bi-partite structure: Q1 + Core. Q1 accounts for categories of aspect and polarity. Core accounts for the lexical material in the sentence and for the functional relations between the various lexical items.

I have already indicated (cf. II.1) that I propose to treat functional relations within the core in terms of 'case' notions. In fact the treatment proposed for the nucleus goes somewhat wider than this and I shall therefore refer to the systems within the core as 'transitivity' systems rather than simply as case systems.

The term 'transitivity' is borrowed from Halliday (1967; 1970), but is used in a somewhat different sense. Under this heading I discuss three separate but interlocking grammatical systems which are referred to as case, aspect and process. In broad terms, process refers to the type of state or activity described in the sentence: whether it is 'inchoative' 'descriptive' etc. Aspect indicates what Hockett describes as the "temporal distribution or contour of an event" (1958:237): our main concern here is only with the primary aspectual distinction between stative and active sentences. Case refers to the functional role of the various noun phrases associated with the process, the "parts that the various persons, objects and other classes of phenomena may play in the process concerned" (Halliday 1970: 146): thus noun phrases are referred to as 'ergative' 'nominative', 'dative', 'locative' and so on.

The aspectual system is associated with the node Q1: in this chapter the categories associated with Q1 are not, however, explored in any great detail - this is left to Chapter 3. Therefore, apart from the distinction between stative (S) and active (A) sentences (a distinction which itself is not fully justified, formally, until Chapter 3) other features of Q1 will continue to be referred to in the summary manner already established, i.e. as hab(itual) prog(ressive) perf(ect) etc. Case and Process are associated with the Core.

Aspectual distinctions, as we have already noted, are typically realised by bound affixes on the verb: hence the reference to verb forms as hab, prog, perf etc. Case is typically associated with the various noun phrases in the sentence, and process with the verb.

The notions are, however, interdependent: certain types of process are typically associated with certain case configurations, and different processes have different syntactic characteristics in construction with different aspects. The categories also correlate with the illocutionary and modal categories discussed above. Thus, for example, in addition to the restrictions already noted for the command illocution, the nucleus with which it is in construction must be active, and the subject must be ergative.¹

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1. Compare Fillmore's comment "Lakoff's discussion [of stative and active verbs - Lakoff (1970)] suggests that ... the imperative transformation can be applied only if the verb is non stative. ... In (my) treatment .. the transformation which accounts for the 'true imperatives' can apply only to sentences containing A(gentive case)s" (1968:31). Fillmore's Agentive case and my Ergative have something in common - cf. discussion below.

The scope of case aspect and process can best be shown through an examination of some examples. Our initial discussion of the examples will be in notional terms since one aspect of the transitivity system is its relation to the semantics of a given sentence. Since, however, we are primarily interested in syntactic rather than semantic structure the eventual justification of the features proposed is formal: some formal justification is offered in this section, but a fuller formal justification is not given until the relevant chapter later on.

Consider the sentences:

- 1a. ogya no redum (the fire is going out)
- b. Kofi redum ogya no (Kofi is putting the fire out)
- c. Kofi so (Kofi is fat)
- d. Kofi reboro abofoa no (Kofi is beating the child)
- e. Kofi rekan nwoma bi (Kofi is reading a book)

We consider first the case relations of the various NPs. In (b,d,e) the subject NP may be said to be an 'active subject', it functions as the 'initiator' of the action described in the verb, and is also the 'actor' ('subject' is used in this section to indicate the NP which immediately precedes the verb). This I shall indicate by the symbolism erg(ative) act(or), abbreviated as E_a . This analysis is clearly inappropriate to the subjects of (a,c), to which we return shortly. In (b,d) the object NP is a 'passive object', the traditional object of a transitive verb ('object' is used in this section to indicate the NP immediately following certain classes of verb). I shall symbolise such objects as nom(inative) pass(ive), abbreviated to N_p . The object of (e) differs from that of (b,d) in that

it is not a passive object but an 'object of concern': in traditional terms the subject of the verb does not 'do anything to' an object of concern, the 'action of the verb' does not 'pass over' to it. The object of (e) is, on the other hand, 'concerned with the action of the verb'. I shall symbolise such objects as nom conc(ern), abbreviated as N_c . We now return to the subject of (a). (a) and (b) are clearly related to each other. Formally this relationship lies in the identity of the subject of (a) and the object of (b) when the sentences contain 'the same' verb. Notionally the sentences are related in that the sentences describe 'the same' type of process - the extinguishing of the fire. The (a) sentence describes a state of affairs without mention of the agent or cause of this state of affairs, the (b) sentence identifies the agent. "The term that is generally employed by linguists for the syntactic relationship that holds between (a) and (b) is 'ergative': the subject of the intransitive verb 'becomes' the object of the transitive verb, and a new, ergative subject is introduced as the 'agent' ... of the action referred to" (Lyons, 1968:352). This suggests that the subject of (a) may be characterised as being in the same case as the object of (b), i.e. as N_p , and this is the characterisation accepted here. It may be noted that it is not considered that the (a) sentence is derived from the (b) sentence by some process like, say, erg deletion. This is discussed in more detail later on; at this point, however, we may note, as offering some support for this position, the sentence:

2. *ogya no ankasa dumyε*

which may be glossed as 'the fire went out by itself', the implication being that no actor was involved in the extinguishing of the fire. We may also note that the sentence:

3. *Kofi dumm ogya no ankasa

is, as marked, ungrammatical. The subject of (c) is also characterised as a 'passive' subject.

We turn now to the processes described in each sentence. The verb in (a) may be characterised as an 'inchoative' verb (Vb_{inch}): it indicates a change of state in the subject, a 'becoming something' (Balmer and Grant, 1942:88). The verb in (c) may be described as a 'descriptive verb' (Vb_{desc}) since it describes a state of affairs. The other verbs I shall refer to as 'action' verbs, since they all in one way or another describe actions. The labels given clearly have broad semantic associations, but there are also formal characteristics which correlate with these labels: since the formal correlates are, however, somewhat complicated to explain briefly and are discussed in Chapter 3, no further discussion is entered into here.¹

1. It will be noted that the verb in (b) is not classified as an 'ergative' verb. For our present purposes we may say that this is because, syntactically in simple sentences it operates like other 'action' verbs, and we therefore have no immediate reason to distinguish it from other action verbs. The notion ergative is discussed briefly later in this chapter and more fully in Chapter 4.

The classification offered here may be compared with that given by Christaller (85) whose basic classification of types of verb is that "a verb is word by which we ascribe doing or being to a person or thing called the subject" (85). Both classes of verb are then sub-classified (inchoative being one of his sub-classifications). The relation between Christaller's taxonomy and mine will appear in Chapter 3. We may also note Akrofi's classification

The case and process characterisations offered may be diagrammed as:

- 4a. N_p Vb_{inch}
- b. E_a Vb_{ac} N_p
- c. N_p Vb_{desc}
- d. E_a Vb_{ac} N_p
- e. E_a Vb_{ac} N_c

Finally we consider the aspectual distinctions between the various sentences. The main aspectual distinction drawn is between Stative (S) and Active (A) sentences. Contingent upon this main distinction, there are a number of other distinctions that may be drawn, but we shall not concern ourselves with them here - they are discussed in Chapter 3. The only distinction we mention is the fact that in a stative sentence the verb must appear in one of the stative forms, notably in the continuative; conversely in active sentences the verb must be in one of the active forms, notably the habitual, progressive and preterite. Thus, for instance we will find:

5. Kofí so (Kofi is fat - continuative)

but not

6. *Kofí só (Kofi is fat - habitual)

*Kofí resó (- progressive)

*Kofí soye (- preterite)

and:

Contd.] (1937:26): "enye daa na adeye asem yi kyere biribi a woye, ato da bi a, yede kyere ade bi suban ana tebea, se ebia, YARE, SO, WARE" (it is not always the case that this verb word indicates something which is done, sometimes it indicates the kind or manner of a thing, e.g. 'to be ill', 'to be large', 'to be tall').

7. ogyá nó dúm (the fire goes out - habitual)
 ogyá nó redúm (the fire is going out - progressive)
 ogyá nó dumye (the fire went out - preterite)

but not:

8. *ogyá nó dum (- continuative).

Of the sentences (1), only (c) is in the stative (as illustrated), all the others are active, and they may have verb forms analogous to those in (7).

Including this characterisation in our analysis of the sentences (1) we arrive at:¹

- 9a. A: N_p Vb_{inch}
 b. A: E_a Vb_{ac} N_p
 c. S: N_p Vb_{desc}
 d. A: E_a Vb_{ac} N_p
 e. A: E_a Vb_{ac} N_c

Analyses like those offered in (9) are referred to as a transitivity frame.

Before going on to consider the formal correlates of the features proposed there is one further distinction we need to note, since it helps to distinguish between the identical frames (9b, d). This is distinctions between 'transitive', 'intransitive', 'ergative', etc. verbs. One of the results of specifying transitivity frames like those in (9) is to impose a classification on the verbs of the language in terms of the frame(s) into which they can enter,

1. As already noted, aspect is associated with the node Q1 - this is the portion represented here before the colon: case and process are associated with the node Core - the items after the colon. The relationship between this representation and constituency structure is the subject of II.4.

and an important part of the lexical specification for a given verb will be a list of these transitivity frames. Some verbs, which we may call 'intransitive', are characteristically only ever associated with one such frame which must be a one-place frame (i.e. containing only a single case feature bundle). SO is such a verb: cf. (9c). There are other verbs, like BORO (cf. (9d) which are 'transitive' and characteristically only associated with a two-place frame. Many verbs, however, are characteristically associated with several transitivity frames, as, for example DUM. This verb occurs in the frames (9a,b): in both cases it takes an N_p case feature bundle, which may be considered to be obligatory. In (9a) there is an additional E_a bundle. The relationship between these frames is described as an 'ergative' relationship. Note, however, that it is considered as a relationship between frames rather than a process (of, say, ergativisation) that is carried out within the grammar.

A different sort of relationship between one and two-place frames may be seen with a verb like KAN 'read'. We have already seen in (9e) that it may appear in a two place frame: it may also appear in the one place frame:

10a. A: $E_a Vb_{ac}$

b. Kofi rekan (Kofi is reading).

For reasons which we will discuss in II.4 below this sentence is not considered to be derived from the two-place underlying structure by, say, object deletion. Notice also that there is no sentence

11. *nwoma no rekan

with an N_p subject, analogous to sentences with DUM. KAN then will be described as 'optionally transitive', in that it takes an obligatory erg and an optional nom: DUM is described as 'ergative' in that it takes an obligatory nom and an optional erg. The 'optionally transitive', relationship, like the 'ergative' relationship is seen as a relationship between frames rather than as a process within the syntax.

We may now observe that many transitive verbs permit 'object deletion'. Thus we may find the sentence:

12. Kofi redum (Kofi is extinguishing it).

Note that this sentence is regarded as deriving from an underlying two-place frame (as the gloss indicates) where the definite, and recoverable, object has been deleted: it does not derive from a one-place E_a frame: and indeed DUM will not appear in a one-place E_a frame. KAN, however, also allows object deletion in an analogous fashion. The sentence (10b) is, in fact, ambiguous as between the reading given ('Kofi is reading') and a reading parallel to that of (12) - 'Kofi is reading it'. In this latter sense the sentence derives from an underlying two-place structure with object deletion: note that in this case the object is definite and recoverable. In Hallidayean terms we might distinguish between the sentences somewhat as follows:

13a. ogya no redum (the fire is going out)
(process oriented; N_p subject)

b. Kofi redum ogya no (Kofi is putting the fire out)
(goal oriented; E_a subject; goal transitive)

- c. Kofi redum (Kofi is putting it out)
(goal oriented; E_a subject; goal intransitive)
- d. Kofi rekan nwoma bi (Kofi is reading a book)
(goal oriented; E_a subject; goal transitive)
- e. Kofi rekan (Kofi is reading it)
(goal oriented; E_a subject; goal intransitive)
- f. Kofi rekan (Kofi is reading)
(process oriented; E_a subject)

(cf. Halliday, 1967, 1970). The labels above are not part of the descriptive system used in this work: they are merely intended to help the reader to appreciate the distinctions involved, and are therefore somewhat ad hoc. Unlike Halliday, I regard sentences like (c,e) as deriving from object deletion within the syntax, i.e. they develop from object deletion in two-place underlying structures similar to those postulated for (b,d). (a,f), on the other hand, derive from underlying one-place structures. This enables us to explain the ambiguity in (e,f).

The distinctions I have sought to draw have thus far been justified almost entirely in notional terms, which are, of course, similar to the sort of distinctions between such sentences that have been traditionally drawn: they can for the most part be found in Christaller's Grammar for instance. Few of the distinctions have any formal morphological correlates. Thus Twi has no 'case' system in the sense in which this term has traditionally been understood in the description of Indo-European and other languages: i.e., as an inflectional category of the noun. As Christaller remarks: "in Tshi these different relations (sc. case relations) are indicated merely by the position of the nouns or they require

their own verbs" (46). We have not yet discussed any case relations that "require their own verbs", though we shall shortly do so. Word order ("the position of the nouns") clearly does play an important role in Twi syntax, as can be seen from the fact that in the sentences illustrated in (1), the various NPs and the verb must be in the order shown, and any other order is ungrammatical (or in the case of abofora no reboro Kofi 'the boy is beating Kofi', cf. (1d), yields an entirely different sentence). Word order, however, is clearly not criterial for distinguishing between cases: it cannot, for instance, distinguish between the different analyses of the only case feature bundle in (9a,c; 10a). This means that the notion of 'subject' as the NP immediately preceding the verb has no unique association with a given case. It does however mean that, at some level of the grammar, subject does have a unique identification in a certain configuration of constituents, and, in terms of the sentences thus far illustrated, the following informal rule may be offered: if there is only one case feature bundle in the transitivity structure, the NP which realises this bundle will precede the verb as subject; if there are two case feature bundles the erg bundle will precede the verb as subject, and the nom bundle follow the verb as object. Nevertheless the fact that there is no 'morphological case' in Twi, and that word order, strict though it is, is not tied to particular instances of particular cases, does not make the notion of case invalid in Twi. As Fillmore says "it is important to realise that the value of a ... system of deep structure cases is of a syntactic and not (merely) of a morphological nature" (1968:21). Case,

in fact, is to be understood as covering what might be termed the 'functional relationships' within a language: 'Il n'y a pas de datif en chinois, il n'y en a plus en anglais ou en danois; mais on a bel et bien des objets indirects .. dans ces langues comme partout ailleurs" (Brøndal, 1943:9).

Just as there are no case morphs, so too there are no overt markers of the various processes recognised: there are no 'inchoative or 'causative' etc. morphs.¹ Indeed the same lexeme may be used in a variety of different processes in different sentences, as we have noted with DUM in (4a,b). As a further example of a widespread phenomenon in Twi consider:

14a. Kofi ware (Kofi is tall)

b. Kofi reware (Kofi is growing tall)

In (a) WARE is a descriptive verb, like SO in (1c); in (b) WARE is an inchoative verb, like DUM in (1a). As in many languages, like English for instance (cf. for example Palmer's discussion of verbs of perception in English: 1965), verbs may be classed into a number of process classes. Each classification generally corresponds to a slightly different sense of the lexeme involved and may involve different syntactic behaviour.

Aspectual distinctions do, in general, have some morphological correlates in terms of the bound aspect morphemes found on the verb word.

-
1. There are a few lexemes that might be thought to be related by means of a 'causative affix': SO 'carry on the head' SOA 'put onto the head' SOC 'put down'; BUE 'open' BUA 'close' but this relationship is restricted to a very small number of lexemes and is not productive. Perhaps it is a remnant of some process in 'ur-Akan'.

Another formal justification for the transitivity frames outlined above lies in the transformational relationships between a given underlying transitivity frame and a set of surface sentences and in the complex of co-occurrence relationships that may be established within the sentence on the basis of the various features recognised in the transitivity frames. The detailed justification of any feature, or feature bundle, is complex, and is the subject of the following chapters; here I shall hope to present a little evidence: sufficient to make the allocations made seem at least superficially plausible. We will consider imperative sentences, some cleft and question sentences, and some co-occurrence restrictions on adverbial expressions. In order to do this it will be convenient to widen our corpus slightly, and to include one more transitivity frame (16); this is partly to make some of the sentences discussed semantically more reasonable and also to enable us to make certain points about the restrictions involved:

15a. A: N_p Vb_{inch}

b. Kofi rewu (Kofi is dying)

kookoo no rebere (the cocoa is getting ripe)

16a. A: N_p Vb_{desc}

b. Kofi yare (Kofi is sick).

Only active sentences where the subject expression is erg act have corresponding imperative sentences:

17a. *dum!¹

-
1. This sentence is only ungrammatical if it is assumed to derive from an underlying one-place structure with an $N_p(a)$ subject. It is quite grammatical if it derives from an underlying two place transitivity frame (like that
[contd.]

b. dum ogya no! (put the fire out)

c. *so!

d. boro abofora no! (beat the child)

e. kan nwoma bi! (read a book)

Active sentences, where the process is not descriptive, can be brought into correspondence with clefts of the sort:

18. nea ereye ne se Kofi rewu ('that+relative' it+prog+
happen (cont)+be that Kofi prog+die: What is
happening is that Kofi is dying)

nea ereye ne se Kofi redum ogya no (What is happening
is that Kofi is putting the fire out)

etc., but stative and active descriptive sentences do not correspond to such clefts:

19. *nea ereye ne se Kofi so

*nea ereye ne se Kofi yare.

An NP which is act in an active sentence may be brought into a cleft sentence of the form:

20. nea Kofi reye ne se oredum ogya no (What Kofi is
doing is putting the fire out)

nea Kofi reye ne se orekan (What Kofi is doing is
reading)

NPs which are not act cannot be brought into such clefts:

21. *nea Kofi reye ne se orewu

*nea ogya no reye ne se Kofi redum no

*nea Kofi reye ne se oso

*nea Kofi reye ne se oyare.

nom pass NPs in active sentences which are not descriptive can be correlated with clefts like:

Contd.] underlying (b)) and has undergone object deletion. In other words it is grammatical in the sense 'put it out', but not in the sense '(oh, fire) go out!'. Compare the comparable sentence (12) discussed above.

22a. nea ereye Kofi ne se orewu (What is happening to Kofi is that he is dying)

b. nea ereye abofora no ne se Kofi reboro no (What is happening to the child is that Kofi is beating him)

but not:

23. *nea ereye Kofi ne se oso

*nea ereye Kofi ne se oyare

*nea ereye Kofi ne se orebore abofora no.

It will be noted that in (22a) the clefted NP is the subject of the corresponding simple sentence, and in (22b) the object. Note that such clefts cannot be formed on sentences involving nom conc NPs:

24. *nea ereye nwoma no ne se Kofi rekan (What is happening to the book is that Kofi is reading it).

In general then, it seems that certain types of cleft sentence may best be defined in terms of the transitivity frame of the corresponding simple sentence. Similarly some types of co-occurrence restriction may be accounted for in terms of transitivity features. Thus locative expressions do not occur with stative descriptive verbs:

25. *Kofi so wo dan no mu (*Kofi is fat in the house)

but they do with active sentences:

26. ogya no redum wo dan no mu (the fire is going out in the house)

Kofi rekan nwoma bi wo dan no mu (Kofi is reading a book in the house)

Kofi rewu wo dan no mu (Kofi is dying in the house)

Kofi yare wo dan no mu (Kofi is ill in the house).

Note here that YARE is grouped with the other active verbs, which it isn't in the clefts discussed above. It may also

be noted that locative expressions do occur with non-descriptive stative verbs: consider, for example:

27. *onam wo abontene no so* (He is walking in the street)
 where *NAM* is a stative verb and cf. also examples (50a, 58) later in this section.

Instrumental phrases occur with animate erg NPs:

28. *Kofi de dua kesse bi reboro abofora no* (Kofi 'take' stick big a prog+beat child the: Kofi is beating the child with a big stick)

but not with animate non erg NPs:

29. **Kofi de sekan bi rewu* (*Kofi is dying with a knife)

Benefactive expressions do not co-occur with stative or active descriptive sentences:

30. *Kofi reboro abofora no ama sukuu panyin no* (Kofi prog+beat child the consequ+'give' school elder the: Kofi is beating the child for the schoolmaster)

Kofi rewu ama ne man no (Kofi is dying for his country)

ne kookoo no rebere ama no (His cocoa is ripening for him)

But not:

31. **Kofi so ama ne maame* (*Kofi is fat for his mother)

**Kofi yare ama ne man* (*Kofi is sick for his country)

It will be noted that quite a wide variety of phenomena can be correlated with transitivity features, and that the restrictions cannot be generalised in terms of one single parameter of the transitivity frame, but all types of features are involved in various restrictions.

We now turn to examine some sentences where a particular case either optionally or obligatorily "requires its own verb". Consider the following pairs of sentences:

32a. akuafoo no duaa nnua bi (farmer the plant+pret
trees some: the farmer planted some trees)

b. akuafoo no de nnua bi duaye (farmer the 'take' trees
some plant+pret: the farmer planted some
trees)

33a. opepeefoo no hintaa ne sika no (The miser hid his
money)

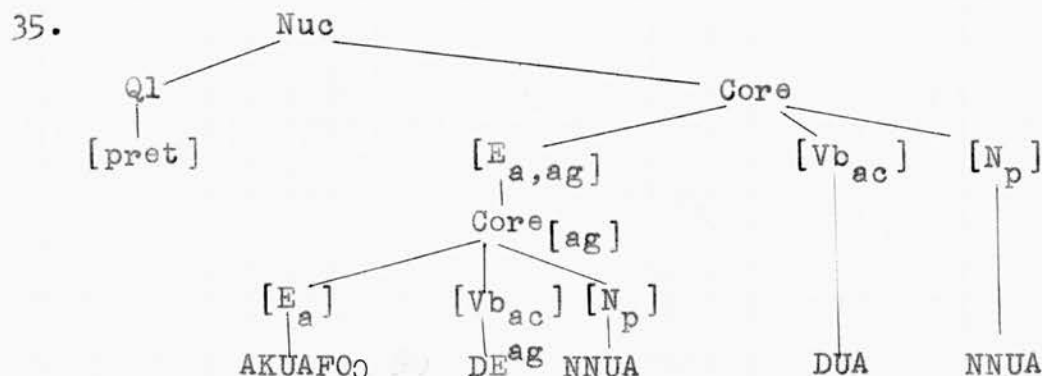
b. opepeefoo no de ne sika no hintaye (The miser hid
his money).

As the glosses indicate, these sentences do not differ in cognitive meaning. Superficially the (a) sentences are identical to other two-place sentences already examined (e.g. 1b, d, e). The (b) sentences contain the same ultimate constituents as the (a) sentences, though differently ordered, and, in addition, the 'agentive auxiliary' de. The proposed underlying functional description of these sentences is:

34. A: $E_{a,ag}$ Vb_{ac} N_p .

All the features except $E_{a,ag}$ have already been discussed, and may be justified in the terms we have discussed in (17-31).

An $E_{a,ag}$ case feature bundle is obligatorily developed, within the syntax, into an 'agentive core', which we may represent as (35).



The agentive core is developed, as shown in (35) into a transitivity frame containing an E_a subject, a verb subscripted as an action verb, and one of that set of action

verbs that may also be used as agentive verbs ($Vb_{ac,ag}$), and an N_p object which must be developed as identical in all respects to the N_p object of the matrix transitivity frame. The agentive core has no separate specification under Q1: in sentences such as (32) the agentive verb cannot make an independent choice of features dominated by Q1, it must agree in tense, aspect, polarity, etc. with the main verb in the matrix sentence. The syntax of the agentive core is discussed in more detail in II.3.1 below. It will be noted that there is no information in (35) which is not also in (34). The appearance of the agentive auxiliary is automatic, consequent upon the selection of a verb like DUA, hence the non-redundant (34) may serve as the transitivity frame for such verbs.

The way such a transitivity frame relates to constituency structure is considered in II.4 below. Here we may suppose that the frame (34) is expanded into the derived underlying functional structure (35). The (b) sentences in (32, 33) will be derived by object deletion of the object of the main verb; the (a) sentences by a process we may call 'agent raising', which has the effect of making the E_a subject of the agentive core the subject of the main verb, and deleting the agentive auxiliary and its object. We may also observe that, whereas object deletion is freely applicable to such sentences, agent raising may not apply in all circumstances. For instance, under conditions requiring pronominalisation (which with verbs like DUA lead to the subsequent deletion of the object pronoun if it is inanimate) only the (b) type of

sentence is acceptable:

36. sika no ^{na} ~~na~~ opepeefoo no de hintaye (money the 'it+is
miser the 'take' hide+pret: It was the money
the miser hid)

*sika no ^{na} ~~na~~ opepeefoo no hintaye

In effect, the assertion that (34) is the transitivity frame underlying the sentences (32) means that such sentences, even though they contain 'two verbs' (de ... duaa) are considered parallel to other sentences containing only one verb: i.e. that they are in a sense 'simple' sentences. Furthermore, that they are, in underlying functional structure, simple two-place sentences which are comparable to sentences like (1b) except for the characterisation of the subject as E_{a,ag}. Note that sentences where the erg NP is not characterised as agent have no agentive auxiliary:

37. Kofi dumm ogya no (Kofi put the fire out)

38. *Kofi de ogya no dumiye

*Kofi de nwoma bi rekan

*Kofi de abofoa no reboro.

A further similarity between verbs like DUA and HINTA and the two-place verbs previously considered is that they are 'obligatorily transitive' verbs, in the sense defined above. There are however 'agentive' verbs where there is an ergative type of relationship between one and two-place sentences:

- 39a. aduaba no rehwete (The seeds are scattering)

40a. akuafoo no de aduaba no rehwete (The farmer is
scattering the seeds)

b. akuafoo no rehwete aduaba no (The farmer is
scattering the seeds).

Since ergative is considered as a type of relationship between transitivity frames, it would seem appropriate to refer to the relationship in (39-40) as ergative. In order, however, to distinguish between this type of ergative and that noted earlier with DUM, we will refer to this as an 'agentivised' ergative. The difference between agentivised and non-agentivised ergatives may be seen in the difference between the following pairs of transitivity frames:

- 41a. A: N_p Vb_{inch} (agentivised - e.g. HWETE)
 b. A: E_{a,ag} Vb_{ac} N_p
 42a. A: N_p Vb_{inch} (non-agentivised - e.g. DUM)
 b. A: E_a Vb_{ac} N_p

Let us now briefly examine the 'transformational paradigm' of verbs like HINTA, HWETE with respect to the sort of sentences discussed in (17-31) above.

- (cf.17) 43a. hinta wo sika ((opt)+hide your money);
 fa wo sika hinta ((opt)+take your money (opt)+
 hide: hide your money)
 b. fa hinta ((opt)+take (it) (opt)+hide: hide it)
 c. hwete aduaba no; fa aduaba no hwete (scatter the
 seeds)
 d. fa hwete (scatter them)
- (cf.20) 44a. nea opepeefoo no reye ne se orehinta ne sika no
 (that+relative miser the prog+do (cont)+be
 that he+prog+hide his money the: what the
 miser is doing is hiding his money)
 b. nea akuafoo no reye ne se ode aduaba no rehwete
 (what the farmer is doing is scattering
 the seeds),

but not:

- (cf. 21) 45. *nea sika no reye ne se opepeefoo no de rehinta
 and so on. We may also note the additional cleft open to

agentivised nuclei, but not to non-agentivised nuclei:

46. nea opepeefoo no de ne sika no yee ne se ode hintaye
 (that+relative miser the take his money the do+
 pret (cont)+be that he+take hide+pret: what the
 miser did with his money was to hide it).

Similarly we note the collocation with adverbials etc:

- (cf.26) 47. akuafoo no redua nnua wo efuo no mu (Farmer the
 prog+plant trees locative farm the inside: The
 farmer is planting trees on the farm)

- (cf.28) akuafoo no de sofi redua nnua (Farmer the take
 spade prog+plant trees: the farmer is planting
 trees with a spade)

- (cf.30) mede sika no rehinta ama m'adamfo (I+take money
 the prog+hide consec+give my'friend: I am
 hiding the money for my friend)

and similar sentences with the other verbs.

We now turn to examine some sentences with case feature
 bundles other than erg and nom. Consider the following:

- 50a. kanea no si opono no so (lamp the (cont)+stand table
 the top: the lamp is standing on the table)

- b. Kofi de kanea no sii opono no so (Kofi take lamp the
 stand+pret table the top: Kofi stood the lamp
 on the table)

- 51a.i. Amma fura ntoma bi (Amma (cont)+wear cloth a: Amma
 is wearing a cloth)

- ii. ntoma bi fura Amma (cloth a (cont)+wear Amma: Amma
 is wearing a cloth)

- b.i. Kofi de ntoma bi furaa Amma (Kofi take cloth a
 put-on+pret Amma: Kofi dressed Amma in a cloth)

- ii. Kofi furaa Amma ntoma bi (Kofi put-on+pret Amma
 cloth a: Kofi dressed Amma in a cloth)

- 52a. Kofi ye ohene (Kofi (cont)+be chief: Kofi is a chief)

- b.i. wode Kofi sii ohene (they+take Kofi install+pret
 chief: They installed Kofi as chief)

- ii. wosii Kofi ohene (they+install+pret Kofi chief:
 They installed Kofi as chief)

The syntax of these sets of sentences is, in some
 respects, parallel. The (a) sentences are all stative; the

(b) sentences all active: none of the exclusively active verb forms may appear in the stative sentence frame, and none of the exclusively stative verb forms in the active sentences frames. Thus, with SI in (50) we do not find:

53. *kanea no resi opono no so (progressive)

*kanea no sɪ opono no so (habitual)

*Kofi de kanea no sɪ pono no so (continuative)

(cf. discussion of (5-8) above); and analogously with the other verbs.¹

The (b) sentences in each case involve an 'agentivisation' in the sense just discussed - note the auxiliary de.

Each set of sentences also has syntactic peculiarities. Thus, with the stative sentences, only those NPs in construction with FURA are reversible round the verb:

54. *pono no so si kanea no

*ohene ye Kofi.

With the agentive sentences, the transformations that apply to the agentive core differ in each case. Agent raising may not apply to what we may call the 'locative' sentence (50):

55. *Kofi sii kanea no pono no so.

Agent raising may apply (subject to certain conditions) to the 'dative' sentences (51) and the 'essive' sentences (52), but note that the ordering of the NPs is different. To use traditional terminology, in the dative sentences the

1. FURA is a difficult verb to analyse quickly since its paradigm is complex. In fact the sentence Amma refura ntoma bi is perfectly acceptable, but only in the active sense 'Amma is putting a dress on' not in the intended stative sense. Note that whereas with the stative forms the NPs are reversible round the verb (as illustrated in 51a) this is not possible with the active forms: *ntoma bi refura Amma. As with other analyses in this Chapter the forms given must be accepted on trust until fully justified in a later chapter: see Chapter 6.

direct object (ntoma no) is also the object of the agentive auxiliary and, on agent raising, is embedded in the three place sentence after the indirect object (Amma). This may be informally diagrammed:

56.i. subj + ag.aux. + direct obj + main verb + indirect obj

ii. subj + main verb + indirect obj + direct obj.

In the essive sentences the direct object (Kofi) is again the object of the auxiliary and on agent raising is embedded in the three place sentence before the nominative complement (ohene):

57.i. subj + ag. aux. + direct obj + main verb + nom. comp

ii. subj + main verb + direct obj + nom comp.

It will be observed that the characterisation offered here of the agentive auxiliary is identical, except in the matter of agent raising transformations, to the description offered above in discussing (32,33).

Much of the functional characterisation of (50-52) is implicit in the above account:

58a. S: N_p Vb_{ac} L_{pos}

b. A: E_{a,ag} Vb_{ac} N_p L_{pos}

59a. S: N_p Vb_{ac} D_{ad,n}

b. A: E_{a,ag} Vb_{ac} N_p D_{ad,n}

60a. S: N_p Vb_{desc} Es

A: E_{a,ag} Vb_{ac} N_p Es

The new material in (58-60) is L_{pl}; D_{ad,n}; and Es. We will discuss each in turn briefly.

The positional locative, abbreviated as L_{pos}, represents

what has traditionally been called a locative complement. In transitivity frames like (58) L_{pos} is an obligatory constituent. There are no sentences:

61. *kanea no si

*Kofi de kanea no si

In this respect L_{pos} differs from place adverbials like those illustrated in (24,25; 34; 47 etc.). Furthermore, while the place adverbial may, optionally, co-occur with the locative marker wo L_{pos} never does:

62. Kofi awu (wo)aborokyiri (Kofi has died abroad)

*kanea no si wo opono no so

*Kofi de kanea no sii wo opono no so.

The positional locative must either be a place noun, or a NP in construction with a 'noun of place or relation' (cf. Chr:115-116). The latter include items like eso 'top' (cf. example 50b) ase 'bottom' akyi 'back' in sentences like:

63. Kofi de kanea no sii opono no akyi (Kofi take lamp
the stand+pret table the back: Kofi stood
the lamp behind the table)

Kofi de kanea no sii opono no ase (Kofi stood the
lamp under the table)

which may be compared with the sentences (50), but there is no sentence of the form:

64. *Kofi de kanea no sii opono no.

L_{pos} corresponds to clefts of the sort:

65. faako aa Kofi de kanea no siye ye opono no so (place
relative Kofi take lamp the stand+pret (cont)+
be table the top: where Kofi stood the lamp
was on the table)

The other items in the transitivity frames (58) correspond to the comparable examples illustrated in (17-31); (43-49).

(cf.17) 66. Fa kanea no si opono no so (Stand the lamp on the table)

(cf.17) *si pono no so

(cf.20) nea Kofi yeye ne se ode kanea no sii opono no so
(What Kofi did was stand the lamp on the table)

(cf.22) nea eyee kanea no ne se Kofi de sii opono no so
(What happened to the lamp was that Kofi stood it on the table)

(cf. 46) nea Kofi de kanea no yee ne se ode sii opono no so
(What Kofi did with the lamp was stand it on the table)

and so on.

Dat(ive) ad(essive) nom, abbreviated as $D_{ad,n}$ represents in general terms what has traditionally been called the 'indirect' or 'dative' object: at least in constructions like those illustrated in (51). In contrast to the locative complement the dative case is generally realised by an animate NP and is not in construction with a locative particle. The datives shown in (51) are subcategorised as nom, since like other noms, they can be brought into correspondence with clefts like:

(cf.22) 67. nea eyee Amma ne se Kofi de ntoma bi furaa no
(What happened to Amma was that Kofi dressed her in a cloth)

(cf.20) nea Kofi yee Amma ne se ode ntoma bi furaa no
(What Kofi did to Amma was dress her in a cloth)

(cf.22) nea eyee ntoma no ne se Kofi de furaa Amma (What happened to the cloth was that Kofi dressed Amma in it).

The characterisation $D_{ad,n}$ is also used to account for the fact that in stative sentences the NPs associated with verbs like FURA 'wear, put on' are reversible round the verb (cf. examples 51a.i and 51.a.ii). This is not ^{the case} with all datives,

as we shall see when these are more fully discussed in Chapter 6.

In this study we shall ^{not} consider sentences containing ess(ive) case feature bundles at any length. The most characteristic usage of essive case feature bundles involves 'copulative' sentences, which we do not discuss here, but cf. sentence (52a) with the 'classificatory' copula ye, and the discussion of copulative sentences in Ellis and Boadi (1969). For our purposes we need only note that there are syntactic grounds to distinguish ess from other case feature bundles. In two and three place sentences the NP that realises this case is always 'intensive' to a nom NP elsewhere in the sentence ('intensive' is used in the sense of Halliday, 1967:39-41):

68a. yepaa no asafohene (we+choose+pret him asafohene:
nom; ess: We chose him asafohene)

b. wosii no shene (they+install+pret him chief: nom;
ess: They installed him chief).

In three place constructions ess is never intensive to erg, except where nom is reflexive, where it may be considered intensive only as a secondary process dependant on lexical selection:

69. Kofi buu ne ho onipa kasee bi (Kofi consider+pret
his self man great a: Kofi considered
himself a great man).

Ess must agree with the nom to which it is intensive in respect of certain NP features:

70a. wobu no onipa kasee (they+(hab)+consider him man
great: They consider him a great man)

b. wobuu won nnipa kasee (they+consider+pret them men
great: They considered them great men)

- c. wɔbuu Kumase kuro fɛfɛfɛ (they+consider+pret
Kumase town beautiful: They considered
Kumase a beautiful town).

Ess may not be reflexivised or pronominalised:

71. *wɔpaa no ne ho

*wɔ sii no no

In respect of the features of syntax noted, it will be clear that Essive case feature bundles may be distinguished from both dat and loc, and implicit in the discussion is the fact that there are certain semantic distinctions that may be drawn between them. We may however note that whereas dat loc and ess freely combine with erg and nom, as shown in (58-60), they do not, in a simple sentence deriving from a single underlying nucleus, co-occur with each other. Since they are thus in complementary distribution, it is clearly possible to consider them all as deriving from a single underlying (and deeper) case feature bundle: In Chapter 6 we consider relationships between dative and locative; the inter-action between these and essive is not discussed, but see Ellis and Boadi (1969) which, while it does not consider this question directly, has a lot of interesting and suggestive data.

To summarise, we may say that every nucleus is considered to be analysed along three interacting parameters: case (ergative, nominative etc.), which accounts for the participant relations within the nucleus; process (inchoative, descriptive, etc.) which characterises the type of activity etc. described by the verb; and aspect (stative, active) which characterises the temporal distribution of the action.

In closing we may enquire whether the notions of transitivity may now be generalised to cover modal and illocutionary nuclei as well: it seems that they may. Consider, for example, sentences with the verb BISA 'ask' (cf. II.2). It may be found in imperative sentences:

72. bisa no se obeba ((opt)+ask him that he+fut+come:
Ask him if he is coming)

it may be found in clefts like:

73. nea Kofi rey: ne se obebisa no se obeba ('that+which'
Kofi prog+do (cont)+be that he+prog+ask
him that he+fut+come: What Kofi is doing
is asking him whether he is coming)

it will co-occur with appropriate instrumental and benefactive adverbials:

74. Kofi de nne kesee bisaa no se obeba anaa (Kofi take
voice large ask+pret him that he+fut+come
question: Kofi asked him in a loud voice
whether he was coming)
75. Kofi bisaa no maa ne maame no se obeba (Kofi ask+pret
him 'give'+pret his mother the that he+
fut+come: Kofi asked him on behalf of his
mother whether he was coming).

Sentences like (73-5) are characteristic of Active sentences, cf. (14ff).

Consider by contrast a sentence like:

76. menim po se meko (NIM PO 'wonder': I+(cont)+wonder
that I+fut+go: I wonder whether I will go)

In this case there is no corresponding imperative:

77. *nim ~~po~~ se wobeko (*wonder whether you will go)

and no sentences, corresponding to (73-75) with instrumentals and benefactives.

Since it was precisely syntactic behaviour of this sort that led us to establish transitivity frames in the first place it seems a natural extension of the notion to apply it

to illocutionary verbs. For example, if we were to extend the condition on the structures embedded under COM to include the fact that the subject of such structures must be E_a (in addition to being in the same person as the object of the COM illocution) and the sentence must be active; then we may account in the same way for the grammatical status both of:

78a. dum ogya no (put out the fire)

b. *so (*be fat)

(cf. 17) and of (72) and (77). The appropriate transitivity frames for BISA and NIM PO are:

| | | | | | |
|----------|----|--------------|----------|----------|------|
| 79. BISA | A: | ac,ill,qu | E_a | D_{ad} | Comp |
| NIM PO | S: | desc,ill,ass | D_{ad} | Comp. | |

This is in line with the notion that the use of an illocutionary verb 'spells out' the illocution: in doing so a particular verbal lexeme has to be chosen, and this may have individual characteristics. This then leads us to make the conditions for the realisation of illocutionary verbs even stronger: an illocution will not be realised by an illocutionary verb unless it has a complete transitivity specification. A defective specification will inhibit lexicalisation and the syntax will not develop structure for an illocutionary verb.

We now turn to consider the transitivity of modal verbs briefly. The same considerations apply. We have already noted that modals do not appear in imperative sentences:

80. wobetumi se wobeko sine anadwo yi (you+fut+be-able
that you+fut+go cinema evening this: You
will be able to go to the cinema this evening)

is grammatical, as is the corresponding question; but there is no sentence:

81. *tumi sɛ wobeko sine anadwo yi (*be able to go to the cinema this evening).

As before this fact may be correlated with the assumption that wo in (80) does not realise an E_a case ^{2a}feature bundle. Nor, it may be noted, does TUMI co-occur with instrumentals, benefactives etc. in its own nucleus.¹ The transitivity frame postulated for TUMI is:

82. TUMI 'be able etc.' A: desc N_p COMP

Note that TUMI has no object noun in its transitivity frame. We may also observe that it is classified as a 'descriptive' verb: hence, as we shall see in Chapter 4, it does not appear in the progressive form:

83. *ɔretumi sɛ (*He is being able to)

Once again the transitivity frame allows us to specify a number of different facets of the syntactic behaviour of the item in question.

All nuclei, then, must have a transitivity specification, whether they are illocutionary, modal or propositional.

II.3.1. The 'agentive core' simple, and serial sentences.

In II.3 we introduced the notion of an 'agentive core' underlying sentences with overt 'agentive auxiliaries'. Such sentences, it was claimed, are 'simple sentences'. We now examine this claim with particular reference to the distinction that may be drawn between such sentences and 'serial sentences'.

1. There is, of course, no such restriction on the propositional nucleus with which it is in construction: wobetumi sɛ wode sekan bekum owo no 'You will be able to kill the snake with a knife'. Here the instrumental is dependent on the subject of the propositional nucleus.

Serialisation is a grammatical process found in many West African languages. Christaller discusses the phenomenon briefly in his grammar (245): "Two or more predicates ... expressing different successive actions, or a state simultaneous with another state or action, but having the same subject, are merely joined together without conjunction and without repeating the subject. In this case two (or more) sentences are thrown or contracted into one, and the verbs are co-ordinate in sense as well as in form. E.g. yεsɔree ntem kɔɔ ofie (we+get-up+pret quickly go+pret house: we arose quickly (and) went home)".¹

Serial sentences are formed by conjoining two or more simple sentences with no conjunction and with extensive deletion of subject and object expressions. Thus, corresponding to the two simple sentences:

1. Amma tɔɔ aduane no (Amma buy+pret food the: Amma bought the food)

Amma noaa aduane no (Amma cook+pret food the: Amma cooked the food)

each of which is characterised by a full specification for illocutionary force, tense/aspect, mood, transitivity etc., there is the serial sentence:

2. Amma tɔɔ aduane no noaye (Amma buy+pret food the cook+pret: Amma bought the food and cooked it).

There are certain conditions each of a set of sentences must fulfil before they can be conjoined in series. An

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1. Further remarks on serialisation in Akan generally may be found in Boadi (1968); Balmer and Grant (1942); Stewart (1963a); Pike (1967). Serialisation in other West African languages is discussed by Bendor Samuel (1968), (1971); Callow (MS), (1967); Pike (1968); Stahlke (1970); Westermann (1930); Williamson (1965).

informal statement of these conditions is:

i: The sentences must have identical subject expressions. The subject of the second, and subsequent, verbs is, unless it is the first person pronoun, deleted: as in (2).

ii: The sentences must agree in illocutionary force, mood, tense/aspect and polarity:

3. Amma anto aduane no annoa (Amma pret+neg+buy food the pret+neg+cook: Amma didn't buy the food and (didn't) cook it)

*Amma anto aduane no noaye (Amma didn't buy the food and did cook it)

*Amma too aduane no annoa (Amma bought the food and didn't cook it)

iii: Subject to rules of object deletion general in the language the object of the second and subsequent verbs will be deleted if it is the same as that of the first verb, as in (2). If the objects are not the same then no deletion occurs:

4. Kofi kumm Kwaame san piraa Yao (Kofi kill+pret Kwaame return+pret wound+pret Yao: Kofi killed Kwaame and wounded Yao).

Deleted object expressions need not be in the same case:

5. onwenee ntoma bi tonye (he+weave+pret cloth a sell+pret: he wove a cloth and sold it)

(resultative and passive objects respectively). Nor need subject expressions be in the same case, provided they are subjects:

6. Kofi di wuye (Kofi eat+pret (it) die+pret: Kofi ate it and died)

(ergative and nominative respectively).

Thus note the distinction between:¹

1. B0 'break' does not permit object pronoun deletion: condition (iii) is worded to allow for this.

7. atoo ahina no baa no (he+buy+pret pot the break+pret
it: he bought the pot and broke it)
8. atoo ahina no ^{no} eboye (he+buy+pret pot the and
it+break+pret: he bought the pot and
it broke).

In these sentences 83 is understood 'transitively' in (7), ('he bought a pot and he broke it'), and 'intransitively' in (8) ('he bought a pot and the pot broke': in the latter case a serial sentence will not be formed.

iv: If the source sentences are both in the progressive or future, then the second verb will take a 'connected form' called the consecutive:

9. Amma reto aduane no anoa (Amma prog+buy food the
consec+cook: Amma is buying food to cook)
- Amma beto aduane no anoa (Amma fut+buy food the
consec+cook: Amma will buy food to cook)

This alternation is purely automatic: it is discussed in Chapter 3.

v: the sentences are joined without conjunction. There is, however, always a paraphrase involving conjunctions:

10. Amma too aduane no na onoye (Amma buy+pret food the
and she+cook+pret: Amma bought the food and
cooked it)

where by general rules of pronominalisation, the subject of the second verb becomes o- and the object, as in the serial sentence, is deleted. Sentences conjoined by conjunction are not subject to the same restrictions on tense/aspect and polarity as are serial sentences: thus the following are perfectly acceptable:

11. Amma too aduane no nanso wanⁿhoa (Amma buy+pret food the
but she+pret+neg+cook: Amma bought the food
but didn't cook it) (cf. 3c).

Amma ato aduane no na obenoa (Amma perf+buy food the and she+fut+cook: Amma has bought the food and will cook it).

Sentences which fulfil these conditions I shall regard as 'true' serial sentences.¹

Now we turn to sentences like:

12. Kofi de kanea no sii opono no so (Kofi take lamp the stand+pret table the on: Kofi stood the lamp on the table)

discussed in II.3 as sentences involving an agentive core. The syntax of these sentences differ in several important respects from the syntax of the serial sentences noted in 1-11).

If the main verb of the sentence is affirmative indicative, then the agentive verb is de and this is invariable:

1. Serial sentences are not considered here in detail. It is however worth noting some of the complications that arise in describing them. Some of these are mentioned in footnotes in this section. One complication involves distinguishing between nominalisations and serial constructions. Thus compare the following:
 - a: ohuu se asikyire no honoye (he+see+pret that sugar the dissolve+pret: he saw that the sugar dissolved)
 - b: ohuu asikyire no honoye (he+see+pret sugar the dissolve+pret: he saw the sugar and dissolved it)
 obehu asikyire no ahono (he+fut+see sugar the consec+ dissolve: he will see the sugar and dissolve it)
 - c: ode asikyire no too nsuo no mu honoye (he+take sugar the throw+pret water the in dissolve+pret: he threw the sugar in the water and dissolved it)
 - d: ode asikyire no too nsuo no mu na honoye (he+take sugar the throw water the in and it+dissolve+pret: he threw the sugar in the water and it dissolved)
 - e: ohuu asikyire no hono (he+see+pret sugar the dissolution: he saw the dissolution of the sugar)
 obehu asikyire no hono (he+fut+see sugar the dissolution: he will see the dissolution of the sugar).

In the (a) sentence we have an embedded sentential complement. In the (b) sentences we find a serial construction: ohuu asikyire no + ohonoo asikyire no: note agreement of aspect etc. in the two sentences, subject and object deletion etc. The (c) and (d) sentences may be compared with (7) and (8) above. asikyire no hono in the (d) sentences is a nominalisation: note that the form of the nominalisation does not change as the aspect of the 'main' verb varies. It will be clear that BO and HONO are 'ergative' verbs, in the sense discussed in II.3 above.

- 13a. Kofi de kanea no resi opono no so (Kofi is standing the lamp on the table)
- b. Kofi de kanea no besi opono no so (Kofi will stand the lamp on the table)
- c. Kofi de kanea no asi opono no so (Kofi has stood the lamp on the table).

If the main verb of the sentence is optative or negative indicative, then the agentive verb is realised as the appropriate form of FA 'take', which must agree in aspect, polarity etc. with the main verb (subject to general rules for 'connected forms' of verbs - cf. (iii) above):

- 14a. Kofi remfa kanea no ansi opono no so (Kofi isn't standing the lamp on the table)
- b. Kofi amfa kanea no ansi opono no so (Kofi didn't stand the lamp on the table)
- c. Kofi mfaa kanea no nsii opono no so (Kofi hasn't stood the lamp on the table.
- d. Fa kanea no si opono no so (Stand the lamp on the table)
- e. ose memfa kanea no nsi opono no so (He said I was to stand the lamp on the table).

There are no serial constructions which are similar in syntax.¹

1. One peculiarity of the agentive verb de that needs to be accounted for is the fact that since it has a low tone Kofi de kanea nó it formally resembles the continuative verb form. This, it will be recalled from the discussion in II.3 is the characteristically stative verb form. Yet we have analysed sentences like (13) as active forms. FA in the negative paradigm is, however, clearly an active verb. It seems to be best to regard de as an anomalous form, that happens to be the form the agentive verb takes in affirmative indicative sentences, and suppletive to FA which appears in negative and optative sentences. de/FA is also used as the 'marker' of instrumental and comitative functions and some adverbial constructions (cf. sentences (30) in this section. An alternative solution, discussed below is to regard de as derived by a late transformation from FA in the relevant environments: this solution is rejected since it complicates the syntax, and appears to have no particularly explanatory value. There are a few constructions where DE is used as a 'main verb': these are discussed in Chapter 6 below.

There is, however, one further complication that ought to be mentioned. In condition (iii) it was stated that for

[Contd.]

It might be possible to regard the sentences in (13) as being a special sort of serial construction derived from, say,

Contd.] 'true' serial sentences the underlying simple sentences must agree in aspect. This is probably too strong a condition, as stated. Consider, for example the following sentences:

- a: osò ne adesoà no koo Kumase (he+(cont)+carry his load the go+pret Kumase: he carried his load to Kumase)
 b: metè Koforidua resua Twii (I+(cont)+live Koforidua prog+study Twi: I am living in Koforidua studying Twii)
 c: okùrà n'asau no nàm nsuo no mu kogyinaa abontoo no mu (he+(cont)+carry his 'net the (cont)+walk water the in go+stand+pret boat the in: he walked into the water carrying his net and went and stood in the boat)

Here we have stative and active verb forms in series. As we shall see when we come to discuss verb forms in Chapter 3 it is possible to modify condition (iii) to save it, and allow the above sentences. The argument is complex; here it will be sufficient to say that, with respect to sentence (b), if we regard the continuative as the 'stative present', and the progressive as the 'active present progressive' the verbs agree in 'tense', though not in 'aspect'. With respect to sentences (a) and (c), we may note that a past state is sometimes expressed by means of an aspect 'particle' which is realised as a separate word, usually clause initial:

- d: Kofi hyè ekye (Kofi (cont)+wear hat: Kofi is wearing a hat)
 e: ná Kofi hyè ekye ('past' Kofi (cont)+wear hat: Kofi was wearing a hat)

and sometimes, when the time reference is clear from the context, no particle at all appears. Thus in (a) and (c) we may suppose that the time reference is given by the preterite form of the final verb hence it is not necessary to mark the 'tense' of the stative formally. In underlying structure, however, it seems reasonable to suppose that the stative verbs are indeed marked as 'stative past': once again the verbs will agree in 'tense' but not in 'aspect'. Support for such an analysis is derived from the fact that the following sentences are ungrammatical:

- f: *okùrà n'asau bəko abontoo no mu (he+(cont)carry his 'net fut+go ...)
 g: *metè Koforidua besua Twii (I+(cont)+live Koforidua fut+study ...)

The continuative is not used with future time reference, and the final verb is future: hence the verbs do not agree in 'tense'.

It will be observed that the paradigm of *de*/*FA* is different from that noted for the sentences (a-e) above. For one thing whereas (f) and (g) are ungrammatical (13b) is perfectly grammatical. Furthermore the negative and optative paradigm of (a-g) differs from that of sentences involving *de*/*FA*. It would seem then that *de* is not a 'stative verb' in the sense that *SO*, *TE* etc. in (a,b) are stative verbs.

For further discussion of *de* cf. Ansre (1966) and Boadi (1968).

15a. Kofi faa kanea no (Kofi took the lamp)

b. kanea no si opono no so (The lamp stood on the table)
with a rule changing fa to de in the appropriate environment.
One difficulty here is the form of SI; (15b) is grammatical,
but, as the sentence is stative a form like:

16. *kanea no resi opono no so

is ungrammatical (cf. discussion in II. 3 (5-8)) above.

Therefore, in addition to changing faa to de we will need to
change si (stative - continuative) to sii (active - preterite;
cf. faa in (15a)) to yield:

17. Kofi de kanea no sii opono no so.

Furthermore the rule (i) would need to be amended, since

kanea no is the object of (15a) but the subject of (15b).¹

A further possibility (cf. Stewart, 1963a) is to regard (17)
as being derived from underlying structures of the form:

18a. Kofi faa kanea no (Kofi took the lamp)

b. *Kofi faa kanea no sii opono no so.

This solution seems to me to pose equal problems since (18b)
is, as noted, ungrammatical, and anyway it already contains
all the NPs necessary. Furthermore, there actually is the
serial sentence:

19. Kofi faa kanea no de sii opono no so (Kofi take+pret
lamp the take stand+pret table the on: Kofi
took the lamp and stood it on the table)

which we may regard as a regular serial sentence (observing

1. The serial sentences in the previous footnote do not
offend in this respect. Thus, for instance, the first
sentence in (a) is derived from:

a: oso adeso (he carries his load)

okoo Kumase (he went to Kumase)

They agree in subject; and no problems of the redistri-
bution of tense morphemes arise.

all the conditions (i) - (v)) derived from two underlying sentences:

20. Kofi faa kanea no (Kofi took the lamp)

Kofi de kanea no sii opono no so (Kofi stood the lamp on the table).

Next, consider sentences like:

21. Kofi de kanea no na esii opono no so (Kofi take lamp the 'it+is' it+stand+pret table the on)

Superficially this sentence resembles the conjoined sentence in (10). The resemblance is, however, entirely superficial since (21) is best regarded as a form of cleft sentence - we might gloss it as 'It was the LAMP that KOFI stood on the table', 'What KOFI stood on the table was the LAMP'. In the sentences:

22a. Kofi na ode kanea no sii opono no so (Kofi 'it+is' he+ take the stand+pret table the on: It was Kofi who stood the lamp on the table)

b. kanea no na Kofi de sii opono no so (lamp the 'it+is' Kofi take stand+pret table the on: It was the lamp Kofi stood on the table)

we may regard the clefted constituents as Kofi and kanea no respectively. In (21) it seems most appropriate to regard the clefted constituent as Kofi de kanea no: note, for instance, the inanimate concord pronoun e- on the verb, and compare it with o- in (22) and (10). In addition we may note clefts like:

23. nea Kofi de kanea no yee ne se ode sii opono no so ('that+relative' Kofi take lamp the do+pret (cont) +be that he+take stand+pret table the on: What Kofi did with the lamp was stand it on the table).

A further point we may make is that 'agent raising' may apply to some sentences involving agentive auxiliaries:

24. Kofi de nwoma bi maa Amma (Kofi gave Amma a book)
 Kofi maa Amma nwoma bi

though this particular transformation is inapplicable, as we have noted, to sentences like (12), and, as we have noted in II.2 it seems most reasonable to regard the form with the overt agentive as 'more basic' than that to which agent raising has applied (since agent raising may not apply in all circumstances, e.g. *Kofi maa Amma no (*Kofi gave Amma it)). Such examples add additional point to the rejection of the solution exemplified in (18). A transformation similar to agent raising may not apply to serials like (2): there is no sentence:

25. *Amma aduane no noaye.

A final reason for rejecting the 'serial' solution for sentences involving the agentive auxiliary involves the impossibility of recursion of the agentive auxiliary. The series:

- 26a. kanea no si opono no so (The lamp stands on the table)
 b. Kofi de kanea no sii opono no so (Kofi stood the lamp on the table)

is acceptable. We may not now add a further agent:

27. *Kwaame de Kofi de kanea no sii opono no so.

This is not to say that (26b) may not be causativised:

28. Kwaame maa Kofi de kanea no sii opono no so (Kwaame 'cause'+pret Kofi take ...: Kwaame made Kofi stand the lamp on the table),

is perfectly acceptable, and causativisation is, at least in principle recursive:¹

1. Observe that when causative verbs are used recursively, different causative verbs are more often used than the repetition of the same causative verb. Asare maa Kwaame

[Contd.]

29. Asare hyee Kwaame maa Kofi de kanea no sii opono no so (Asare force+pret Kwaame 'cause'+pret Kofi take ...: Asare forced Kwaame to make Kofi stand the lamp on the table).

Agentivisation is a process that may apply once to a given nucleus, and only once.

Nor does rejecting the serial solution imply that no sentences may be found involving a series of des:

- 30a. Kofi de owo no too opono no so (Kofi take snake the throw+pret table the on: Kofi threw the snake on the table)
- b. Kofi de abaa bi de owo no too opono no so (Kofi take stick a take snake the throw+pret...: Kofi threw the snake on the table with a stick)
- c. Kofi de anigye de abaa bi de owo no too opono no so (Kofi take happiness take stick a take snake the throw+pret...: Kofi threw the snake on the table with a stick happily).

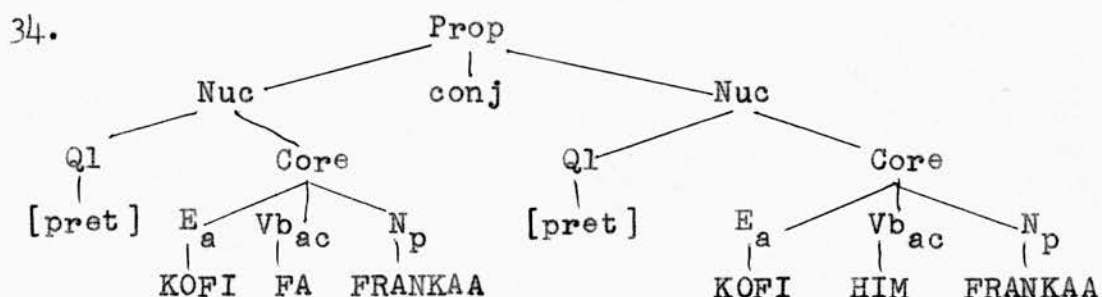
In the (b) sentence the phrase de abaa bi is instrumental; in the (c) sentence de anigye is a manner adverbial: there is still only a single agentive expression Kofi ... de owo, as in (30a).

Sentences involving the agentive auxiliary de/FA, then, are not serial sentences. This being established we may now note that in fact they do have some serial/like qualities, notably that the sentences contain two 'verbs'. This fact I shall account for by deriving agentive sentences from an agentive core, as suggested in II.3. We may compare the underlying structure of an agentive and a serial sentences as

Contd.] maa Kofi ... is acceptable, but sounds a little 'odd'. A further solution, which is also rejected is to have a rule which transforms ma to de when it is the lowest of all causative verbs. The reasons why this solution is rejected has to do with the distinction drawn between agentive and causative sentences discussed in II.4.5.

functional relations; this structure allows us to specify the structural conditions for entry to clefts analogous to those illustrated, for a different verb, in (21-23) - In (22a) the E_a NP is clefted; in (22b) the N_p NP is clefted in (21) the structure developed from $E_{a,ag}$ is clefted.

The structure underlying (32c) is represented in (34).



These two nuclei may be conjoined, and, after the operation of the appropriate pronominalisation transformations we will have:

35. Kofi faa frankaa no na shimye (Kofi took the flag and waved it).

The nuclei have identical subject expressions (condition (i)); and agree in illocutionary force and in Ql features (condition (ii)); the object of the second nucleus has been pronominalised and deleted; condition (iv) does not apply in this instance. Since these conditions are met by the structure 34, they may be conjoined in the serial (32c) without an intervening conjunction (condition v).

II.3.2 Subject and Object.

It will be clear from the discussion of transitivity in II.3 that the notions subject and object are not considered to be relevant to the underlying structure of sentences.

First let us examine the notion subject. This is a notoriously difficult category to define: as Lyons remarks: "Even a three way distinction of 'psychological' subject (the topic), 'grammatical' subject (in surface structure) and 'logical' subject (in deep structure) fails to capture all the distinctions which at one time or another have been associated with the notion of 'subject' in grammatical and logical theory" (1968:344). In Twi too such a classification is unsatisfactory.

We begin by examining the notion of 'logical subject'. Chomsky (1965:68ff) rightly claims that functional notions like subject etc. are "to be sharply distinguished from categorial notion such as 'Noun phrase', 'Verb' etc."; he goes on, however, to propose that the notion subject of can "be directly extracted from phrase markers" (1965:74) by defining "'Subject-of', for English, as the relation holding between the NP of a sentence of the form NP Aux VP and the whole sentence" (1965:69). This proposal has been attacked, for English, by writers like Fillmore (1968) and Anderson (1971) who maintain, in my view rightly, that while such a proposal is clearly feasible, it does not yield a useful category since "no semantically constant value is associated with the notion 'subject of'" (Fillmore, 1968:17). The same sort of argument clearly applies for Twi. Arguments have been presented in II.2 for the assignment of case features to NPs in various sentences and it is clear that neither in one place sentences

1a. Kofi rekasa (Kofi prog+speak: Kofi is speaking: erg)

b. Kofi ware (Kofi (cont)+be-tall: Kofi is tall: nom)

nor in two place sentences:

- 2a. Kofi fura ntoma bi (Kofi (cont)+wear cloth a: Kofi is wearing a cloth: dat, nom; nom)
- b. kanea no si opono no so (lamp the (cont)+stand table the top: the lamp stands on the table: nom; loc)
- c. efun no bon me (corpse the (hab)+smell me: the corpse smells to me: nom; dat)
- d. Kofi redum ogya no (Kofi prog+put-out fire the: Kofi is putting the fire out: erg; nom)

is there any constant association between a given case feature bundle and any NP in the sentence. Certainly in terms of the sort of grammar discussed here, there is no place for the notion of 'logical subject'.

The notion of a 'grammatical' subject is perhaps somewhat more relevant. We may note, however, that this notion is not relevant for concordial purposes (as it may be in, say, English) since Kwahu does not exhibit verbal concord:

- 3a. onipa no rekasa (man the prog+speak: the man is talking)
- b. nnipa no rekasa (men₁ the prog+speak: the men are talking)

The relevance of the notion lies in the fact that Twi may be regarded as, relatively speaking, a 'fixed word order' language and that the verb requires to be preceded by a noun phrase or by an affixed pronoun: this item may be regarded, as we have already indicated, as the 'subject' of the verb, since it is useful to have a label for such an item when discussing word order. Furthermore, there are, as we have

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1. The question of reduplication and verbal concord opens up some complex questions which are discussed in Chapter III. 2.2e. The conclusions reached there do not however affect the issue here.

noted in II.2 various generalisations to be made about word order that can be associated with the case of the various NPs in a sentence. Thus, if there is only one case feature bundle in a transitivity frame, the NP that realises this will precede the verb as 'subject'; if there is more than one bundle, the erg bundle will always be subject in preference to other bundles; if there is no erg, then the nom bundle will generally be subject. These generalisations can be seen at work in the examples (1,2): (2a) is a particular case which we have already discussed and is characterised as dat nom precisely to accommodate the ordering shown. These, and other, word ordering rules, then, will determine the subject of any given simple sentence: and it is in this sense that subject will be used here, as an informal term for the NP that precedes the verb.

The notion of psychological subject presents difficulties equal to that of logical subject. Consider, for example, cases like the following. Obligatorily transitive verbs like PAM 'sew' must, as we have seen in II.2, derive from underlying two-place transitivity frames:

4. me maame no repam atadee bi (my mother the prog+sew
dress a: my mother is sewing a dress)

With such verbs there are no sentences like:

5. *atadee repam

and a sense with a 'non-referring' subject must be realised with an overt non-referring subject:

6. yepam atadee ha ('they'+(hab)+sew dress here: dresses
are sewn here)

Similar examples, not necessarily involving obligatorily transitive verbs are sentences like:

7a. yɛka Twii ha ('they'+(hab)+speak Twi here: Twi is spoken here)

b. yɛsa ha ('they'+(hab)+dance here: 'dancing goes on here', 'people dance here' etc.)

In none of the sentences (6,7) can the subject expression yɛ- be called the psychological subject. As a further example, consider the alternative orderings shown in the following pairs of sentences:

8a. nea ɔkyerekyerefoɔ no boroo no ne Kofi ('he+who' teacher the beat+pret him 'it+is' Kofi: The one whom the teacher beat was Kofi)

b. Kofi ne nea ɔkyerekyerefoɔ no boroo no (Kofi 'it+is' 'he+who' teacher the beat him: Kofi was the one the teacher beat)

9a. Kofi fura ntoma bi (Kofi (cont)+wear cloth a: Kofi is wearing a cloth)

b. ntoma bi fura Kofi (cloth a (cont)+wear Kofi: Kofi is wearing a cloth)

In each case (and for different reasons) the NPs are reversible round the underlined verb. The criteria for determining the appropriate word order in such cases is connected with problems affecting the structure of discourse, which are not examined here: there is, however, no reason to suppose that the problems of word order in discourse are any less intricate in Twi than they are in English (cf., for example, Halliday, 1967, 1968^a) and that the notion of psychological subject will be unitary, or connected in any simple way with the subject NP, where this is understood as the NP preceding the verb.

The notion of subject, then, is retained only as an informal term to refer to the NP preceding the verb.

The notion of object presents similar difficulties. As can be seen from the sentences (2), there is no necessary

connection between underlying categorial structure and an object relation, since any case, except erg, may follow the verb:

10. kanea no si opono no so (lamp the (cont)+stand table
the on: the lamp stands on the table: loc)

efun no bon me (corpse the (hab)+smell me: the
corpse smells to me: dat)

one m'agya (he+is my'father: he is my father: ess).

In none of these instances does it seem appropriate to refer to the NP after the verb as an 'object', yet syntactically there is little reason to distinguish them in underlying categorial structure from the NP following the verb in the sentence:

11. Kofi kumm Kwaame (Kofi kill+pret Kwaame: Kofi killed
Kwaame: nom)

which might appropriately be labelled as an 'object'. The term will, however, be retained for informal use to refer to nom NPs in sentences where there is also an erg: thus Kwaame in (11) or ogya no in (2d) may be referred to as 'objects'. It will, of course, be clear that whereas, by the above definition, all objects are nom, not all noms are objects: thus Kofi in (1b) and kanea no in (2b) are noms but not objects.

II.4 Functional structure and syntactic structure

In the previous section we examined, under the heading of transitivity, the functional relationships between the various noun phrases and the verb in terms of the categories of case, process and aspect. In II.2 we discussed the functional structure of sentences in terms of

the modalities associated with the notion of illocutionary force etc.

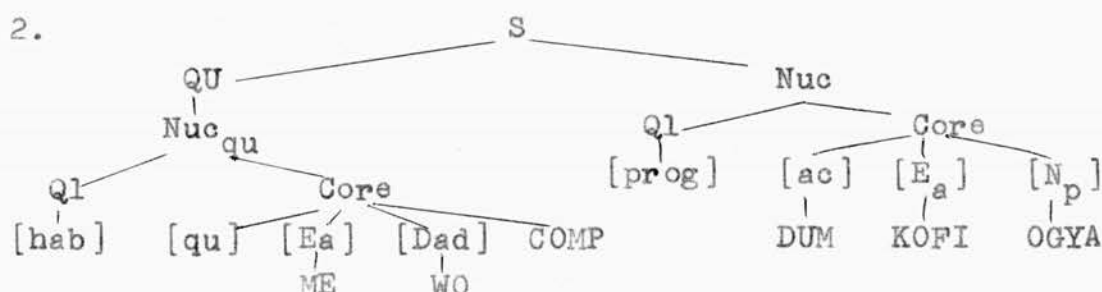
It will have been clear that this structure is, as it were, Janus-like. On the one hand it faces towards the semantic structure of the sentence in terms of the functions discussed. Its other face is turned towards syntactic structure in so far as the various categories described clearly have implications for various aspects of the syntax of the sentences concerned: the illocutionary markers have implications for certain aspects of the syntactic form of the sentence, transitivity features have implications for word order within the sentence, for verb form etc.

Thus far it has been tacitly assumed that the underlying functional structures postulated, may also be used as underlying syntactic structures. In this section I shall hope to show that they are not, in fact, identical, even though they are very intimately related.

For terminological convenience I shall continue to call the functional structures we have been discussing thus far underlying (functional) structures. The underlying syntactic structures I shall refer to as deep (syntactic) structure. I shall further propose that deep structure is interpretive of underlying structure, in that the development of the deep structure is controlled by the functional structure. They are distinct in that the underlying functional structure may contain elements that are never realised in the deep syntactic structure; and, conversely, that the deep structure may contain configurations that are

not overt in the functional structure.¹ The details of how the two structures are thought to be related will be explored directly: first, however, a brief example may clarify the point. Collating the descriptions offered for illocutionary force and transitivity (and omitting details of the modality, which will not affect the example), we may say that the structure proposed for a sentence like:

1. Kofi redum ogya no anaa? (Is Kofi putting the fire out?)
- is (2).

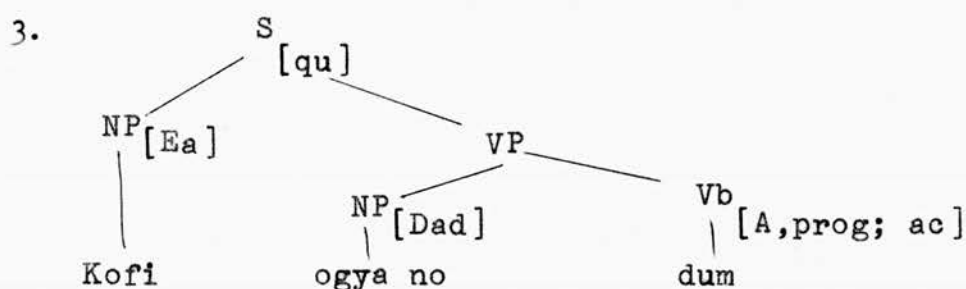


1. The proposal derives, in part, from a remark of Lyons: "We can envisage the possibility that the base component of a transformational grammar would comprise two sub-components. The first would account for the categorial combination of various lexical items. The second would contain rules for associating the various features of tense, mood and aspect at various levels of the structure generated by the categorial component" (1968:333). Compare also Lyons' remark: "the grammatical structure of a language and its semantic structure tend to be highly, but not totally, congruent with one another. As soon as the linguist becomes seriously interested in semantics he must see that nothing but advantage can come from the methodological separation of semantics and grammar. As long as it is maintained that every identity or difference of grammatical structure must be matched with some corresponding identity or difference of meaning (however subtle and difficult to determine) there is a danger that either the grammatical description or the semantic, or both, will be distorted" (1968:135).

These notions may also be compared with Jespersen's discussion of the relation between formal, syntactic and notional categories in Jespersen (1924). For instance, Jespersen writes: "Syntactic categories thus, Janus-like, face both ways, towards form and towards notion. They stand midway and form the connecting link between the world of sound and the world of ideas" (1924:56-7); cf. also Chafe, 1970.

The transitivity frame developed under Nuc is identical to that already described in II.3. The representation under QU is like that described in II.2. We shall return to examine the question of lexicalisation in due course: it will, however, be recalled that in the section on illocutionary force it was proposed that if constituents of the illocutionary nucleus were not fully developed, then they could not be lexicalised - in the structure (2) it will be noted that this is the case for the constituents there: the process, for instance, is merely marked as qu, it has no feature ill nor one of the features ac, desc or inch (discussed in II.3 above): it cannot therefore be lexicalised. The constituents of Nuc on the other hand are fully specified, and the transitivity frame is well formed, so these may be lexicalised, as indicated.

The deep syntactic structure that corresponds to (2) is (3).¹

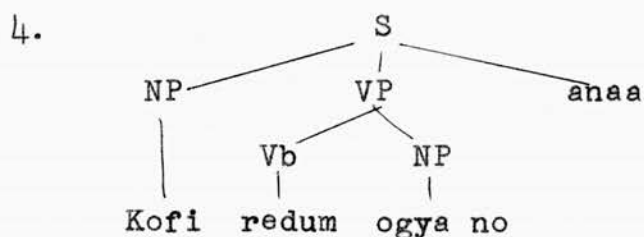


In this case the deep syntactic structure corresponds rather closely to the proposed structure of Nuc in (2). The deep structure does not, however, show any structure which corresponds to the development of QU: there is no reason why

1. The structure offered here must be understood to be specified only to the level of detail discussed in this chapter.

it should. The sentence (1) has no performative verb: this is, indeed, specified in the functional structure (2) by the fact that the process marker in the illocutionary nucleus is not developed, hence cannot be lexicalised. There is no reason therefore for the deep structure to contain a configuration of dummy elements generated only to be deleted: that would be superfluous. It will be noted that the relevant functional information necessary for the specification of various syntactic processes is subscripted to the appropriate constituents of the deep structure. The reason for this will be clear in due course.

The final derived constituency structure of the sentence (1) after the operation of various transformations to reorder the verb and its object, and to turn the sentence into the interrogative form, is:

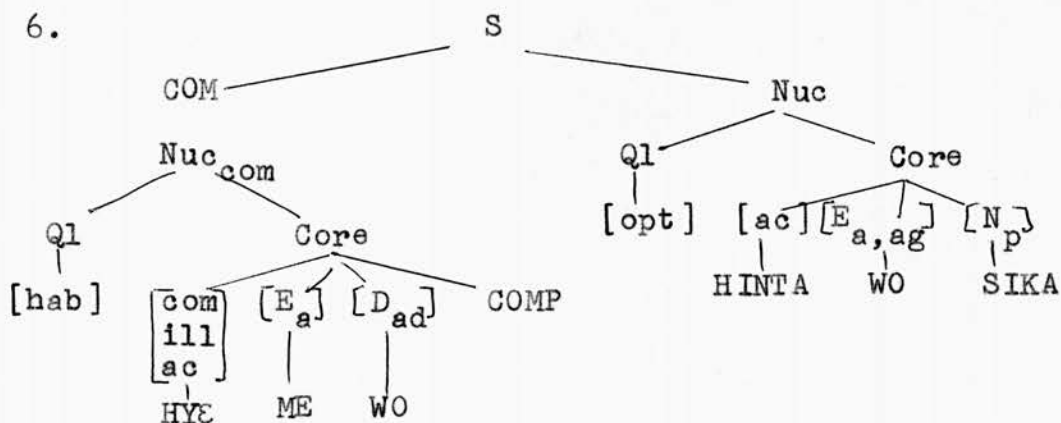


A comparison of the deep structure (3) and the functional structure (2) will show that the latter is structurally richer than the former.

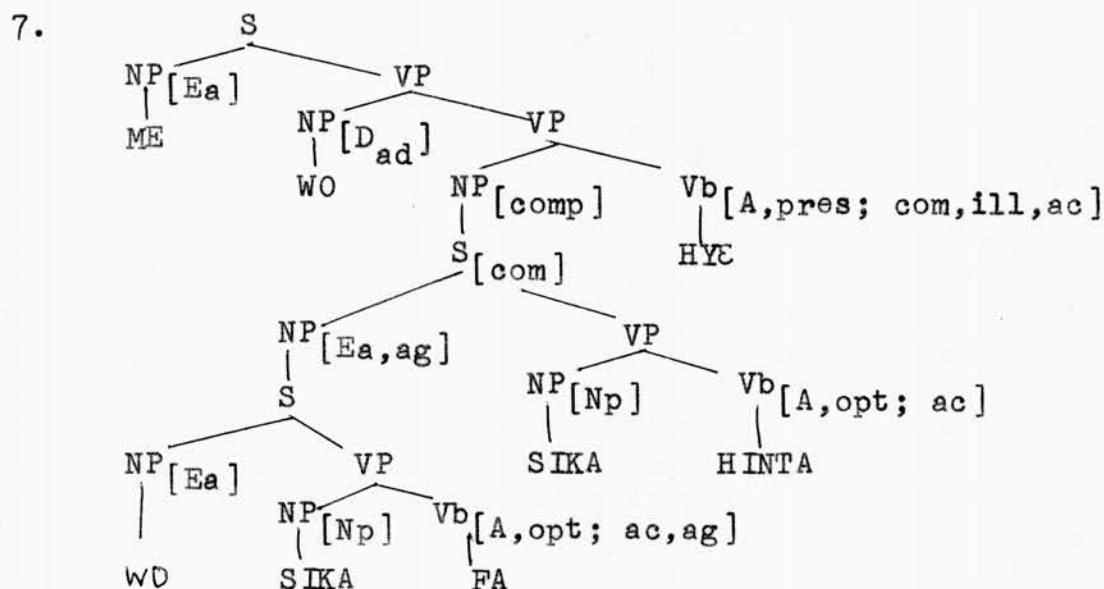
The opposite situation holds when we consider the derivation of the sentence:

5. mehye wo se fa sika no hinta (I order you to hide
the money)

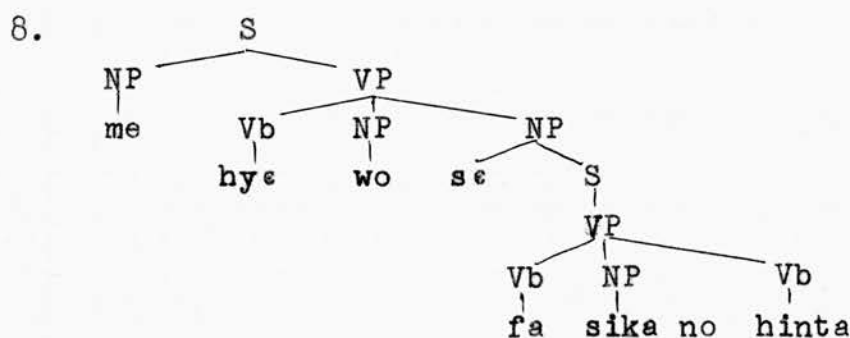
The underlying structure is of the form (6).



The transitivity frame under Nuc is identical to that described in II.3. Note that HINTA takes an agentive ergative, and note too that since the transitivity frame is redundantly specified, this is not developed in the functional structure. The representation under COM is similar to structures developed in II.2.1. The process is fully developed into a feature bundle, hence it must be lexicalised. The deep syntactic structure will consequently develop structure to realise the illocution as a performative verb. We also note the relevant co-occurrence restrictions between the illocutionary nucleus and the propositional nucleus. The deep structure corresponding to (6) is (7).



In this case the deep structure is, in certain respects, more complex than the functional structure. In particular the redundancies in the transitivity frame, which are not relevant for functional structure, are spelled out in the syntactic structure since they are relevant there. In particular note the syntactic structure corresponding to the agentive core. Furthermore, since the illocutionary verb is lexicalised, the deep structure provides a structure to accommodate it. The final derived constituency structure of (5) after the operation of the relevant transformations: the command transformation, embedding, re-ordering and deletion transformations is:



In comparing (2) and (3) it will be evident that the functional structure of (2) is richer than the deep structure of (3); In the case of (6) and (7), the deep structure (7) is richer than the functional structure (6), although all the structure in (7) is implicit in (6).

If we regard the relationship between functional structure and deep structure in this way, then we will need some machinery (a) to account for well formed functional structures: these I shall refer to as 'composition rules' and (b) to account for the realisation of these functional structures in deep syntactic structures: these I shall refer to as 'constituency structure rules'.

II.4.1 Composition rules and conditions.

Composition rules are those rules that account for well formed functional structures. From the remarks in the previous section it will be clear that the status of such rules is rather peculiar, however. It was suggested above that functional structure is Janus-like: looking up into the semantics and down into the syntax. It was stated furthermore that the functional structure may be seen as controlling the syntactic structure. This being the case it may be better to regard the functional structure as in some sense the 'output' of the semantic component: the role of the composition rules is then to check that this output is of a sort that can appropriately be interpreted by the rules of the syntax - the constituent structure rules. What I have in mind is hinted at by Lyons: "It is not inconceivable that the semantic information should be organised in such a way that it then becomes possible to derive part of the grammatical information (required for the operation of the grammatical rules) from the statement of ... the meaning ... whenever there is congruence between the grammatical and the semantic (information)"¹ (1968:167)

Since this work is concerned with syntax rather than semantics no proposals are offered on how to organise the semantics in order to bring about the state of affairs

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1. Lyons discussion is in fact with respect to the possibility of doing this with respect to 'semantic' and 'syntactic' features of nouns: hence the alterations to the text quoted above (the italics are Lyons' not mine). There seems no reason however to suppose that the principle may not have a wider application.

envisaged by Lyons. My proposals are solely concerned with the features that must be present for the correct operation of the syntactic component. The sense in which this is the case is implicit in our discussion of the features that need to be accounted for in transitivity frames, and we will return to this point at the end of this section.

Let us first, however, offer some rules and discuss them. Consider first the sort of rules offered by Fillmore (1968). He proposes rules of the sort:

1. $S \rightarrow M + P$ (Modality/Proposition)

2. $P \rightarrow V + C_1 \dots C_n$ (Verb/Case).

By rule (1) the sentence is expanded as "a proposition, a tenseless set of relationships involving verbs and nouns ... separated from what might be called the modality constituent (which) will include such modalities on the sentence as a whole as negation, tense, mood and aspect" (1968:23). By rule (2) "the P constituent is 'expanded' as a verb and one or more case categories" (1968:24). As we have noted there is something in common between Fillmore's proposals and my own (which indeed draw heavily on some notions which he, among others, has discussed at length). Fillmore, of course, only offers an outline in the above rules, and his case categories are regarded as unitary:¹ since my proposals involve feature bundles rather than single features there are problems about rules analogous to (1,2). We could consider rules like:

1. They are unitary in Fillmore (1968), in some later work they are more complex, cf. Fillmore (1969). Others have proposals involving feature bundles: particularly Anderson (1971).

$$3. \text{ Nuc} \rightarrow \text{Q1} + \text{Core}$$

$$\text{Q1} \rightarrow \begin{Bmatrix} \text{S} \\ \text{A} \end{Bmatrix}$$

$$\text{Core} \rightarrow \begin{Bmatrix} \text{inch} \\ \text{ac} \\ \text{desc} \end{Bmatrix} (E(a(ag))) (N \begin{Bmatrix} \text{p} \\ \text{c} \end{Bmatrix}) \left(\begin{Bmatrix} \text{D}_{ad(n)} \\ \text{L}_{pos} \\ \text{Es} \end{Bmatrix} \right)$$

These rules will in fact generate all the bundles described in II.3 (and for convenience we will at this point restrict the discussion to the generation of transitivity bundles), they are not, however, in themselves satisfactory since they also generate a large number of inadmissible frames as well. As, for example:

$$4a. \quad *S: \text{ desc } E_{a,ag}$$

$$b. \quad *A: \text{ inch } E_{a,ag} \quad N_c \quad L_{pos}$$

i.e. in (4a) a stative frame with a descriptive verb and an agentive ergative; and in (4b) an active frame with an inchoative verb, an agentive ergative, and 'object of concern' and a positional locative. The rules in (3) will therefore either need to be emended to exclude impossible frames, like (4), or some additional machinery devised to filter out impossible frames.

We shall in fact adopt the latter proposal, but let us first examine the former, emending the rules to exclude impossible frames. This might be done by context sensitive rules similar to those developed by Chomsky (1967) and developed by Rosenbaum (1968). Thus, for example, we could emend the rules along the following lines (the conventions follow Rosenbaum, 1968):

$$5a. \text{ Nuc} \rightarrow \text{Q1} + \text{Core}$$

$$b. \text{ Q1} \rightarrow \text{CS} \quad (\text{complex symbol})$$

- c. $[+Q1] \rightarrow \left\{ \begin{bmatrix} +S \\ +A \end{bmatrix} \right\}$
- d. Core \rightarrow Proc (E) (N) $\left(\begin{Bmatrix} D \\ L \\ E_s \end{Bmatrix} \right)$
- e. E \rightarrow CS
- f. $[+E] \rightarrow \left\{ \begin{bmatrix} [+a] \\ [-a] \end{bmatrix} / [+A] - \right\}$
- g. $\begin{pmatrix} +E \\ +a \end{pmatrix} \rightarrow [+ag] / - N \begin{pmatrix} D \\ L \\ E_s \end{pmatrix}$
- h. N \rightarrow CS
- i. $[+N] \rightarrow \left\{ \begin{bmatrix} [+c] \\ [+pass] \end{bmatrix} / [+E] - \right\}$

These rules are already quite complex, and clearly we have not come to the end of the road yet. By further expansion of the rules we could indeed generate all and only the transitivity frames that are permissible. Thus (4a) would be excluded by rules f,g which allows E to be developed as $E_{a,ag}$ only on condition that the sentence is Active. (4b) would be excluded by a rule, which has not been formulated in (5) which would not permit N_c to co-occur with L_{pos} .

Such rules will clearly be extremely complex: this is not in itself an objection, except insofar as it makes the description unmanageable. Such rules are, however, positively undesirable: the principal objection lying in their context sensitive nature. Consider, for example, the statement above that a frame such as (4a) is impossible since we may not have a stative frame with a descriptive verb and an agentive ergative. If the frames are developed as in (5) by expanding one constituent at a time then we must decide which constituent is to be developed first. If we develop Q1 first, then the E node may only be developed as $E_{a,ag}$ on condition that Q1 is specified as A; alternatively, we might

develop E first, then Q1 could not be developed as S if E had been developed as $E_{a,ag}$; or again we might develop the process first, in which case E could not be developed as $E_{a,ag}$ if the process is descriptive. The choice of the determining feature bundle is arbitrary, and whichever one is chosen for initial development certain generalisations are going to be missed. The problem is similar to that discussed by Chomsky with respect to the subcategorisation of syntactic features for nouns: "If the subcategorisation is given by re-writing rules, then one or the other of these distinction will have to dominate, and the other will be unstateable in the natural way" (1965:81). A formalism is necessary that will allow us to express co-occurrence restrictions without forcing an inappropriate hierarchy into the description.¹

The solution Chomsky offered for dealing with syntactic features in Aspects was to borrow formalism from phonological descriptions which could "be adapted without essential change" (1965:82) for his purposes. It seems appropriate to borrow further phonological machinery in this case. Stanley (1967) develops the notions of 'Positive' and 'Negative' conditions. Their function in phonology may be described as follows.

Positive conditions: "Stanley states that "each positive condition consists simply of an incompletely specified matrix". For example, we would like to show that

1. This is not to say that none of the feature restrictions are hierarchical: some clearly are. For example, an ergative case bundle can only be agentive, if it is also categorised as actor.

all the vowels in any one morpheme are either tense or lax. This may be stated as follows:

$$\text{PC: } + X \left[\begin{array}{c} +\text{vocalic} \\ \alpha \text{tense} \end{array} \right]^* X +$$

: X does not include a +

(... + represents a morpheme boundary. The asterisk is to be interpreted as a symbol for iteration ... The alpha is a variable ranging over plus and minus ...). (Schachter and Fromkin, 1968:12).

Negative conditions: "Like positive conditions, each negative condition C consists of a single incompletely specified matrix: in this case we will denote the matrix by the symbol NC. The interpretation of a negative condition C is that all matrices U of which NC is a subset are REJECTED, all other matrices are ACCEPTED. As an example, consider a language which has systematic phonemes č š and j but no ž. This situation is described by the negative condition:

$$\text{NC: } \sim \left[\begin{array}{c} -\text{Vocalic} \\ +\text{Compact} \\ -\text{Grave} \\ +\text{Continuant} \\ +\text{Voiced} \end{array} \right]$$

Here the symbol (\sim) is the sign of negation. The condition accepts just those matrices in U which contain no voiced continuant palatal segments" (Stanley, 1967:427).

The formulation of these conditions will need to be adapted slightly to fit our purposes, but negative conditions of the following sort are envisaged:

$$7. \quad \text{NC: } \sim [S] [E_a]$$

(i.e. E_a (and therefore $E_{a,ag}$) case bundles do not occur in stative sentences)

8. NC: $\sim [E_a] [\text{desc}]$

(i.e. descriptive verbs do not have E_a subjects)

As an example of a positive condition, consider:

9. PC: $(X \begin{matrix} [D] \\ \text{or} \\ [N_p] \\ [+pro] \\ [+II] \end{matrix} X)_{\text{COM}} (X [E_a] X)_{\text{Nuc}} \begin{matrix} [+pro] \\ [+II] \end{matrix}$

(i.e. where the sentence has a COM illocutionary force, the object of the verb must be either D or N_p and must be a second person pronoun; and the nucleus with which it is in construction must have an E_a which must be a second person pronoun).

Just as phonological positive and negative conditions may be seen as well formedness conditions on the output of the lexicon (cf. discussion in Brown, (forthcoming)), so the conditions envisaged here may be seen as conditions on the well formedness of functional structures: i.e., together with the composition rules, they define possible functional structures, or rather functional structures that can be interpreted by the rules of the syntax.

Let us now reconsider the rules (3) in the light of the remarks at the beginning of this section. If we regard the functional structure as the output of the semantic component, then we may do away with the composition rules (3), while retaining the positive and negative conditions. The composition rules themselves will be redundant since semantic rules will supercede them: The conditions, on the other hand will still be necessary in order to check that the output of the semantic rules is interpretable within the syntax. If they are not, then the functional structure is blocked: if

they are, then the syntax will find a suitable form for that functional structure.

In this work, however, which does not attempt a semantic analysis it will be convenient to retain the composition rules, since they can be held to express some broad generalities about the form of functional structures.

As a final comment on negative and positive conditions, consider a grammar organised in terms of Seuren's proposals (1969). The relevant rules to be considered are (cf. Seuren, 1969:168ff):

10.i. Sent \rightarrow SQL + Prop (Sentence/Sentence Qualifier/
Proposition)

ii. SQL \rightarrow $\left\{ \begin{array}{l} \text{ASS} \\ \text{QU} \\ \text{IMP} \\ \dots \end{array} \right\}$ $\left(\begin{array}{l} \text{Assertion} \\ \text{Question} \\ \text{Imperative} \end{array} \right)$

iii. Prop \rightarrow QL + Nucleus [V] (Qualifier/Verb)

(iv-ix develop QL and are not relevant here)

x. [V] \xrightarrow{L} v

xi. Nucleus [v] \rightarrow *S[N] + MV[v] + *O[N] + *IO[N] +

Rules (i-iii) are clearly rather like rules that might be written to account for the proposals made here. Rule (x) is to be understood as "'go to the lexicon; select an arbitrary v from the category V; write v for V'" (p.171).

"Under V the lexicon will contain all verbs, plus for each verb a specification of what subcategory or subcategories of nouns can figure as a non-deviant subject, object, indirect object or prepositional object (if any)" (p.171). Rule (xi) is to be interpreted as follows: "MV stands for 'main verb' and *X means: 'select X if v requires X select or do not

select X if v allows for X; do not select X if X is not specified for v' (p.173). In other words, verbs are specified in the lexicon in terms of their co-occurrence potentialities with subjects, objects, etc. A sentence is developed by choosing a verb and realising as many noun phrases as this verb obligatorily requires, together with as many optional noun phrases as you wish. This proposal is comparable to the case proposals offered here. Seuren, however, since this is not the object of his work, does not attempt to specify what is a well formed strict subcategorisation frame: would it be possible, for instance, for a verb, like, say, one of the ergative verbs, to have no subject in the intransitive form: the surface subject being derived from an underlying object; or can a verb have two subjects? or two indirect objects? etc. The conditions suggested here act in a rather similar way to their cousins in a phonological description: they check on the well formedness of transitivity frames.

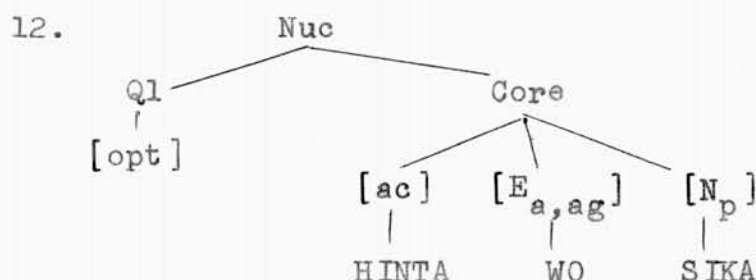
There remains one further problem with respect to the functional structure. We have already noted that functional frames are maximally redundantly expressed. Only one redundancy is specifically at issue here, that involving agentive ergatives, and their expansion into an agentive core. Since the deep structure is interpretative of functional structure, it is proposed that the functional structure should be expanded into a derived functional structure which can then be realised by the deep structure. I will propose that the derived functional structure is produced by a set of rules called 'segmentation rules', the

formalisation of which is as proposed, for similar rules, by Rosenbaum (1968).

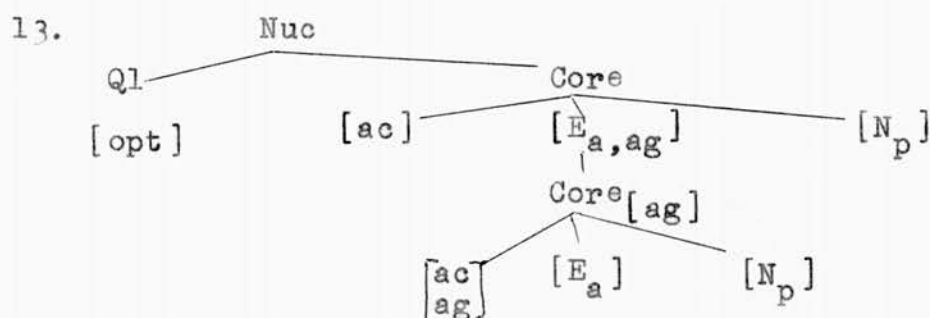
Let us take a concrete example. In II.3 we looked at the sentence:

11. me hye wo se fa sika no hinta (I (hab)+order you that (opt)+take money the (opt)+hide: I order you to hide the money).

We are here only interested in the structure of the nucleus: i.e. that part of the structure dominating the transitivity frame. This structure is (12).

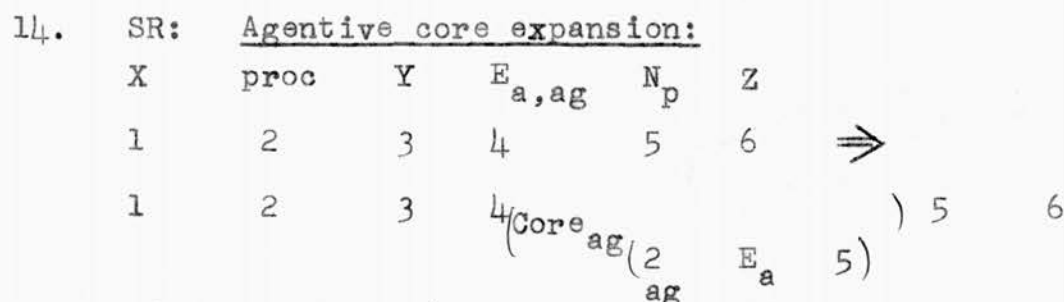


The agentive core is implicit in the specification $E_{a,ag}$. From this structure we would wish to produce the derived functional structure (13).



as suggested in the discussion in II.3.

This is effected by means of the following segmentation rule:



Condition: X,Y and/or Z may be zero

1-6 are immediately dominated by the same core.

Segmentation rules, as can be seen from the example, can add additional structure (in this case the agentive core); can copy elements (e.g. 5); and can add features (e.g. the addition of the process specification ag (i.e. an agentive verb) to the copied 2). The rule (14) operating on the structure (12) will produce the derived functional structure (13). It is this derived structure that is suitable for entry to the deep syntactic structure rules.

Let us now summarise this section. The underlying functional structure looks two ways: towards semantic structure and towards syntactic structure. The function of the rules discussed here is to check the well-formedness of the underlying functional structure (the composition rules, negative and positive conditions) and to make certain adjustments to it before its passage to the rules of the syntax (the segmentation rules).

It may be observed that all the operations discussed in this section operate on features or feature bundles. In the next level of derivation, the rules of the syntax, these feature bundles will be realised as constituents.

II.4.2 Constituency structure and transformational rules.

As already indicated, the function of constituency structure rules is to interpret underlying functional structure in constituent structure terms. The rules are of a particularly straightforward type, since we have not, so far, introduced any great structural complexity into our

discussion. In fact we need only the following rules:¹

i. $S \rightarrow NP + VP$

ii. $VP \rightarrow NP + \begin{Bmatrix} VP \\ Vb \end{Bmatrix}$

iii. $NP \rightarrow \begin{Bmatrix} N \\ S \end{Bmatrix} (+Det)$

Now let us suppose that the generator will generate as many Ss as there are lexicalised cores in the underlying structure. When the underlying structure specifies a lexical item (lexicalisation is discussed in II.4.3 below) then NP is rewritten as N (+ Det); When the underlying structure specifies that a given case feature bundle is developed into a further S, Nuc, Core etc., then the generator will develop NP as S. The structure generated by the rules (1) will be referred to as a deep structure.

The deep structure will then go through a series of transformational operations to produce the final sentence. As we have already seen many of the transformations need to be defined in terms of underlying functional relations. Therefore we need to suppose that transformations have access to the functional structure, and that the relationship between functional and deep structure is well defined. In order to effect this I will suppose that relevant features of the functional structure are mapped on to the constituency structure, for purposes of identification. This may be done

1. There is no rule for the verb: we discuss these in Chapter III. Similarly the rule for the NP is of a particularly straightforward nature. Let us, provisionally suppose that the development of NP as N introduces proper names and nouns with no determiner; N + Det introduces determined nouns (sika no, sika bi 'the money, some money'). When NP is developed as S the structure is recursive.

by the following rules:

2a. Within any individual core:

- 1: If there is an erg case feature bundle, this will be assigned to the topmost NP.
- 2: Failing an erg case feature bundle, or if (1) has operated, then a nom case feature bundle is assigned to the topmost, or next topmost, NP.
- 3: Failing an erg or nom case feature bundle, or if (1) and/or (2) have operated, the remaining case feature bundle will be assigned to the remaining, or only, NP.

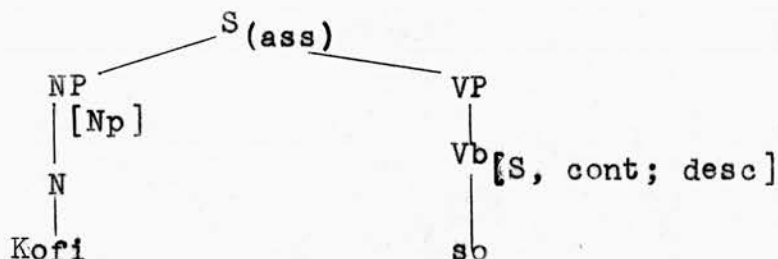
b. Q1 features will be assigned to the verb. ~~The~~

The illocutionary marker will be assigned to dominate, in deep structure, the S which will eventually be transformed (It will be recalled that in functional structure it is in construction with the relevant propositional nucleus).

Let us consider the application of these rules to some sample sentences. First we will consider only transitivity frames from the propositional nucleus (though the superordinate S will be marked for illocutionary force):

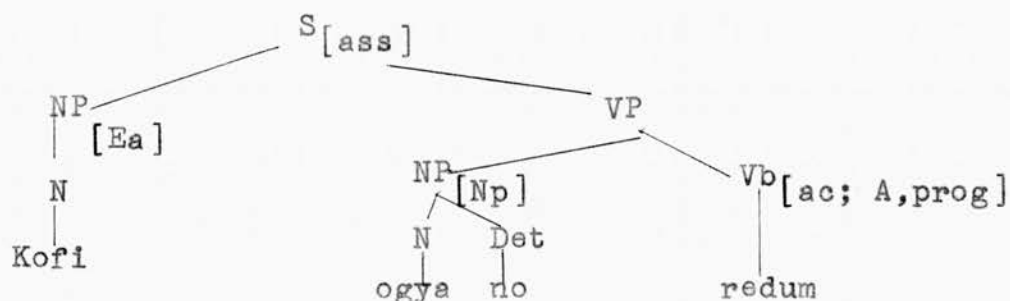
3. Kofi so (Kofi is fat)

ASS:: S,cont: desc N_p (cf. II.3, 9c)



4. Kofi redum ogya no (Kofi is putting the fire out)

ASS:: A,prog: ac E_a N_p (cf. II.3, 9b)



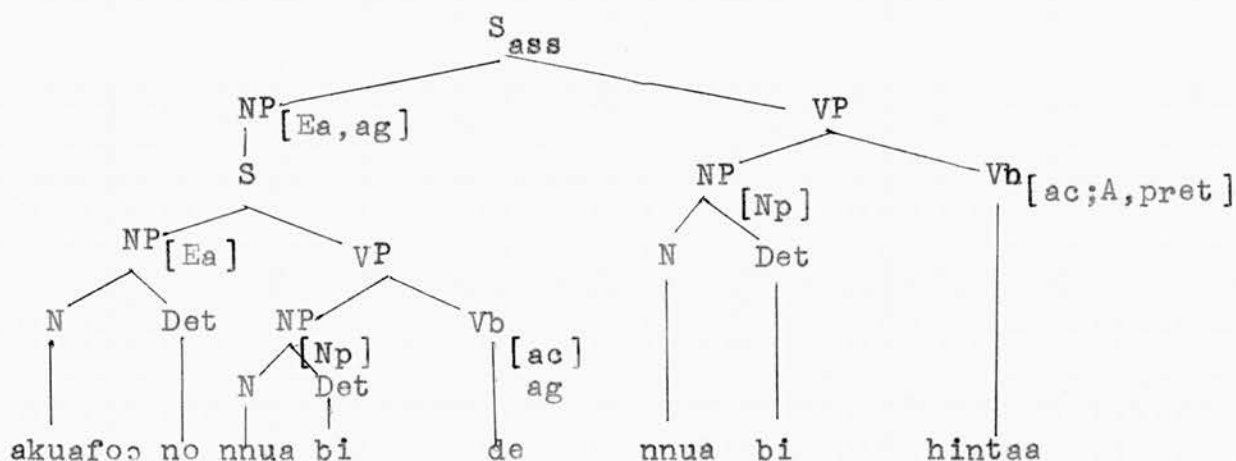
5a. akuafoɔ no de nnua bi duaye (The farmer planted some trees)

b. akuafoɔ no duaa nnua bi

ASS:: A,pret: ac E_{a,ag} N_p (cf. II.3, 34)

ASS:: A,pret: ac E_{a,ag} Core_{ag} ac E_a N_p
ag

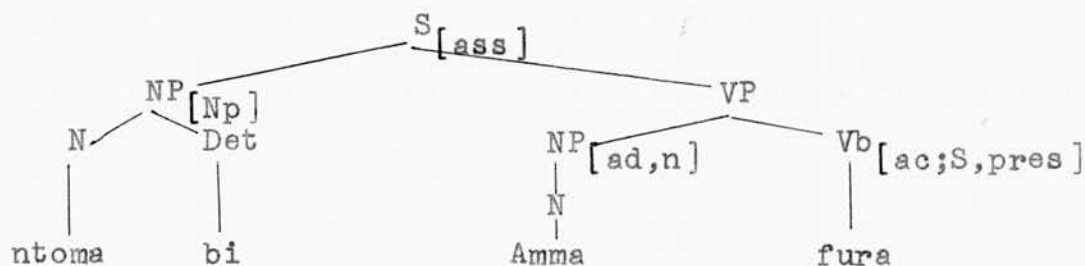
(by the 'Agentive core expansion rule' - cf. II.3,14)



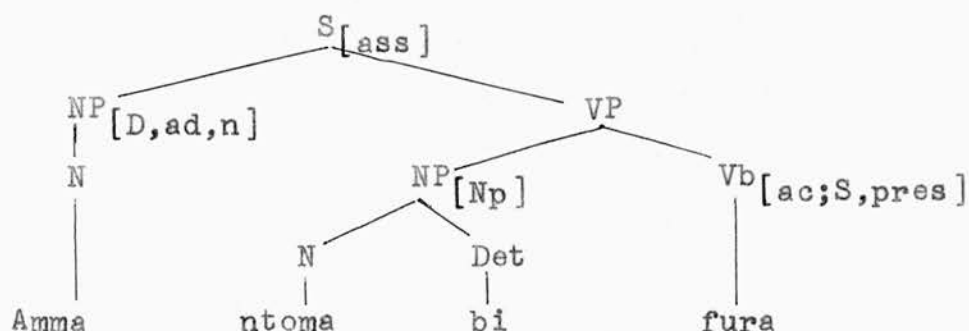
6. Amma fura ntoma bi (Amma is wearing a cloth)

ntoma bi fura Amma

ASS:: S,pres: ac N_p D_{ad,n} (cf. II.3, 59a)



OR



By rule (2,2) "... a nom case feature bundle is assigned to the topmost, or next topmost, NP". The rule does not specify that the nom feature must be the primary feature: in this case both case feature bundles are described as nom.

As a final example, consider the sentence:

7. mehye wo se fa sika no hinta (I order you to hide the money)

In this case we have an overt performative. We have supposed all along that the syntactic structure only provides structure for illocutionary force when this is lexicalised, as it is in this case. It will be recalled that the generator generates as many Ss as there are lexicalised cores in the functional structure. In the examples 3-6 we have supposed that there are no lexicalised illocutionary nuclei. Here there is, so a structure is generated to accommodate it.

$$8a. \text{ COM } (A, \text{pres: } \begin{bmatrix} \text{COM} \\ \text{I} \\ \text{ac} \end{bmatrix} E_a D \text{ Comp}) \quad A, \text{opt: ac } E_{a, \text{ag}} N_p$$

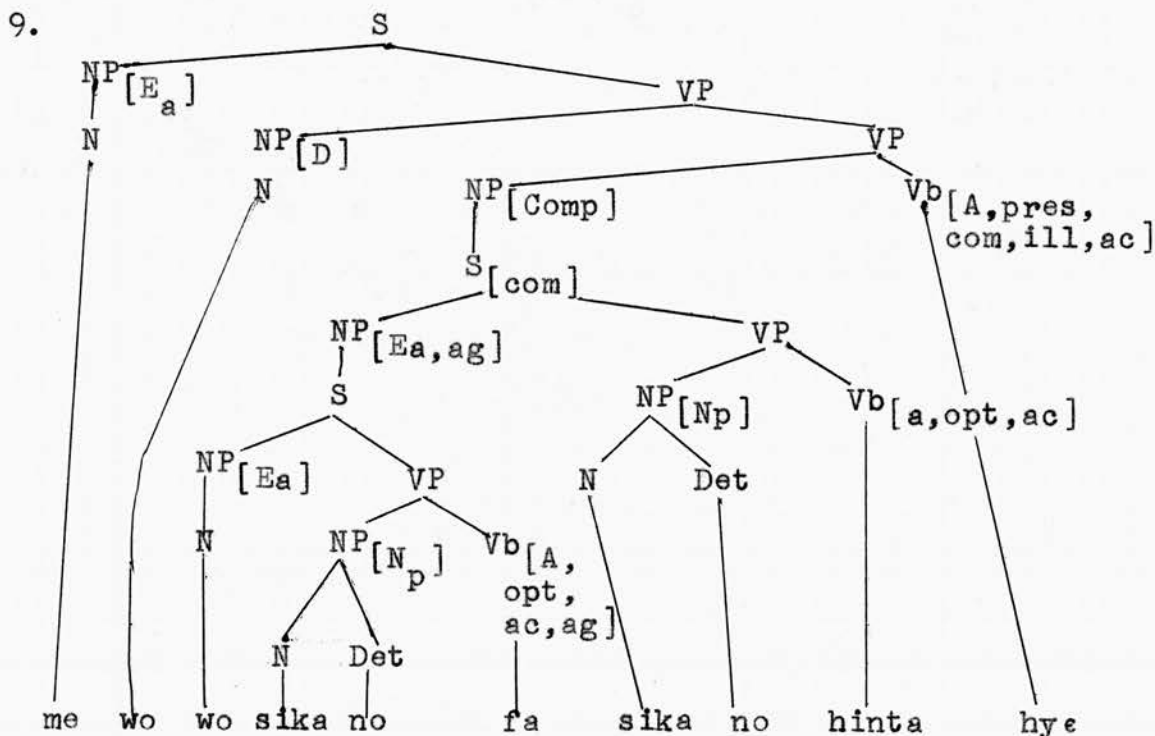
$$b. \text{ COM } (A, \text{pres: } \begin{bmatrix} \text{COM} \\ \text{I} \\ \text{ac} \end{bmatrix} E_a D \text{ Comp}) \quad A, \text{opt: ac } E_{a, \text{ag}} N_p$$

(by the operation of the segmentation rule)

$$c. \text{ COM } (A, \text{pres: ac } E_a D \text{ Comp } (A, \text{opt: ac } E_{a, \text{ag}} (\text{Core}_{\text{ag}} \begin{bmatrix} \text{ac} \\ \text{ag} \end{bmatrix} E_a N_p) N_p))$$

(by the agentive core expansion rule)

After the operation of the constituent structure rules we have (9).



This structure is complex, but it follows the same principles as other structures examined in this section, with respect to the rules discussed so far: i.e. the generation of constituent structure and the assignment of features at various levels of the structure.

The structures illustrated in (3-9) are what I have said I shall call deep structures. To achieve the final form of the sentence, these structures will need to undergo a series of transformations. The proposed transformations are described in II.3.4 below and will not be reproduced here.

It will be noted that the transformations, like the constituency structure rules operate on constituents like NP, VP etc.; they do not operate on features, although features may be necessary in some instances for the identification of a particular NP.

II.4.3 Lexicalisation and lexical entries.

These two topics (the structure of lexical entries and the point in the derivation at which lexicalisation takes place) are clearly closely related. Thus, if a verbal lexeme is categorised in terms of a strict sub-categorisation frame, we shall need to know the point in the derivation at which transitivity frames are appropriately formulated. In terms of the model discussed here this point is clearly the level I have described as functional structure. This being so, verb lexemes may be characterised in the lexicon in terms of the functional frames into which they may be inserted. Thus, for some of the verbs discussed in II.2 we will have entries of the sort:

| | | | | | |
|--------|--------------------------|----|------|-------------------|---------------------------------|
| 1. KAN | 'read' | A: | ac | E _a | |
| | | A: | ac | E _a | N _p |
| DUM | 'put out, extinguish' | A: | inch | | N _p |
| | | A: | ac | E _a | N _p |
| SI | 'stand, put' | S: | ac | N _p | L _{pos} |
| | | A: | ac | E _{a,ag} | N _p L _{pos} |

etc.

This proposal has something in common with Fillmore's proposals: "In lexical entries for verbs abbreviated statements called 'frame features' will indicate the set of case frames into which a given verb may be inserted. These frame features have the effect of imposing a classification of the verbs of the language. Such a classification is complex not only because of the variety of case environments possible within P, but also because many verbs are capable of occurring

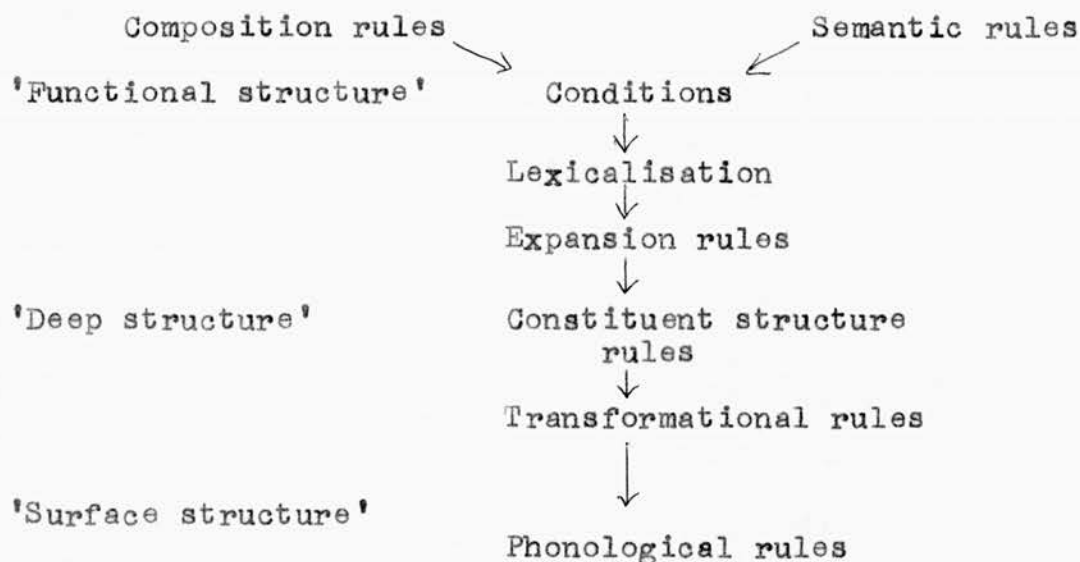
in more than one distinct environment" (1968:27). In those cases where a verb occurs in more than one environment Fillmore's proposal regarding the lexical entry of the 'frame features' is as follows: "The word open, to take a familiar example, can occur in (_ O), as in 'the door opened', in (_ O + A) as in 'John opened the door', in (_ O + I) as in 'the wind opened the door', and in (_ O + I + A) as in 'John opened the door with a chisel'. The simplest representation of this set of possibilities is to make use of parentheses to indicate the 'optional' elements. The frame feature for open may thus be represented as +(_ O(I) (A))" (1968:27 - I have slightly adapted the form in which the quotation appears). The advantage of Fillmore's proposal is that the lexical entry is minimally redundant. There are however certain difficulties about formulating entries as he describes if we accept the utility of transitivity frames which are specified in terms of aspect and process as well as case. Thus, consider the frames in (1). In the case of KAN Fillmore's proposals would be workable, since the frames differ only in that one has an N_p case feature bundle that the other lacks. In DUM and SI the problem is more difficult: in the case of DUM the process type of the verb changes, and in the case of SI the aspect characterisation of the sentence. In such cases it does not seem profitable to attempt to collapse a set of frames into a single frame since a consideration of the whole range of possibilities shows that it would not be possible to establish the necessary conventions for the correct prediction of the relevant frames.

There is also the difficult question of when we are to consider that the 'same' lexeme occurs in different frames, since, as we have seen, the sense of a lexeme may differ from frame to frame. Conversely there is the problem of suppletion.

The questions raised here cannot at this stage be fully answered. I therefore propose that we consider discrete lexical entries, as in (1) and assume that lexicalisation takes place at the level of functional structure.

II.4.4. Summary of rules and sample derivation.

To summarise the model proposed, the following flow diagram is offered. Note that two inputs are offered: one, that followed here, uses 'composition rules', the other takes a semantic input, and some comments on this are made in the following section.



1. To distinguish functional and deep structure, the initial symbol U is used for functional structure.
- 2-4. Illocutions are developed as illocutionary nuclei with the specified features. If ill is chosen, then ac or desc must also be chosen. Com verbs may only have an E_a subject. Note that some restrictions are stated here and some in the conditions.
5. Mod is not developed further here.
7. Q1 is only developed here in outline; there is no provision for the various tenses and aspects of the verb. These are discussed in Chapter III.
8. Co-occurrence restrictions within the Core will be handled by the conditions. U is to allow for recursion of illocutions.

Since the description offered so far is in outline only, the rules offered are also outline rules. Rules are on the right hand pages, the facing pages contain, where appropriate, comments, sample derivations etc. It should be noted that the bracket notation has two functions: labelled brackets refer to the relevant constituent; unlabelled brackets indicate that the constituent in question is optional. There is a sample derivation at the end of the section.

1. Composition rules.

1. $U \rightarrow \left\{ \begin{array}{c} \text{ASS} \\ \text{QU} \\ \text{COM} \end{array} \right\} + \text{Prop}$
2. $\text{ASS} \rightarrow \text{Q1} + \text{Core} \left(\begin{array}{c} \text{ass} \\ \text{ill} \\ \{ \text{ac} \} \\ \{ \text{desc} \} \end{array} \right) (E_a) D_{ad} \text{COMP} \Big)_{\text{Core}}$
3. $\text{QU} \rightarrow \text{Q1} + \text{Core} \left(\begin{array}{c} \text{qu} \\ \text{ill} \\ \{ \text{ac} \} \\ \{ \text{desc} \} \end{array} \right) (E_a) D_{ad} \text{COMP} \Big)_{\text{Core}}$
4. $\text{COM} \rightarrow \text{Q1} + \text{Core} \left(\begin{array}{c} \text{com} \\ \text{ill} \\ \text{ac} \end{array} \right) E_a (D_{ad}) \text{COMP} \Big)_{\text{Core}}$
5. $\text{Prop} \rightarrow (\text{Mod}) + \text{Nuc}$
6. $\text{Nuc} \rightarrow \text{Q1} + \text{Core}$
7. $\text{Q1} \rightarrow \left\{ \begin{array}{c} \text{St} \\ \text{Act} \end{array} \right\} \{ +\text{neg} \}$
8. $\text{Core} \rightarrow \left\{ \begin{array}{c} \{ \text{inch} \} \\ \{ \text{ac} \} \\ \{ \text{desc} \} \\ U \end{array} \right\} (E(a(ag))) (N \{ \begin{array}{c} P \\ C \end{array} \}) (\left\{ \begin{array}{c} D_{ad}(n) \\ L_{pos} \\ Es \end{array} \right\})$

- 1.i. The tense of the primary illocution must be present
 - ii. The illocutionary verb (ill) may be marked for one of the major illocutions (ass, qu, com): if it is it will be lexicalised, if not, not.
 - iii. The subject of the illocutionary must be +ego and the object +tu.

2. Illocutionary verbs must be realised if they are secondary illocutions.

3. If the illocution is negated, then there must be an illocutionary verb, whether primary or secondary.

4.i. Subject of nucleus and object of illocutionary verb must be identical

ii. The Q1 of the nucleus must be active and opt.

5-6. Two nuclear conditions are noted here. A full list of nuclear condition is found in Chapter VII.

2. Conditions

1. Primary Illocutions:

$$PC: \left(\begin{array}{c} (pres) \\ Q1 \end{array} \right. Q1 \text{ Core } \left(\begin{array}{c} \text{ill} \\ \text{ill} \end{array} \right) \left\{ \begin{array}{c} E_a \\ D_{ad} \end{array} \right\} (D_{ad}) \left. \begin{array}{c} \text{COMP} \\ \text{Core} \end{array} \right) \left(\begin{array}{c} + \text{ego} \\ + \text{tu} \end{array} \right) \text{ILL}$$

where ILL is a cover term for ASS, QU, COM; and ill is a cover term for ass, qu, com.

2. Secondary Illocutions:

$$PC: \left(\begin{array}{c} ((neg)) \\ Q1 \end{array} \right. Q1 \text{ Core } \left(\begin{array}{c} \text{ill} \\ \text{ill} \end{array} \right) X \text{ Core } \left. \begin{array}{c} \text{features} \\ \text{ILL} \end{array} \right)$$

where ILL is a cover term for ASS, QU, COM; and ill is a cover term for ass, qu, com.

Conditions: ILL is dominated by Nuc.

3. Negative Illocutions:

$$PC: \left(\begin{array}{c} \neg (neg \text{ features}) \\ Q1 \end{array} \right. Q1 \text{ Core } \left(\begin{array}{c} \text{ill} \\ \text{ill} \end{array} \right) X \text{ Core } \left. \begin{array}{c} \text{features} \\ \text{ILL} \end{array} \right)$$

4. Command Illocutions:

$$PC: \begin{array}{c} \text{COM} \end{array} \left(X D_{ad} Y \right) \begin{array}{c} \text{COM} \end{array} \left(\begin{array}{c} (A) \\ \text{opt} \end{array} \right) \left(\begin{array}{c} Q1 \\ \text{Prop} \end{array} \right. Q1 \text{ Core } \left(X E_a Y \right) \text{Core} \left. \begin{array}{c} \text{Prop} \end{array} \right)$$

Condition: The NP realising D_{ad} in COM and E_a Prop must be co-referential and identical.

5. Descriptive Nuclei:

$$NC: \begin{array}{c} \sim \\ \text{Core} \end{array} \left(\text{desc } X \text{ actor } Y \right) \begin{array}{c} \text{Core} \end{array}$$

6. N_c Nuclei:

$$PC: \begin{array}{c} \text{Core} \end{array} \left(\text{ergative } X \begin{array}{c} \text{nom} \\ \text{conc} \end{array} Y \right) \begin{array}{c} \text{Core} \end{array}$$

3. Expansion Rules.

A. Ergative Agent Expansion:

| | | | | | |
|-----|------|---|-----------------------------------|----------------|---|
| X | proc | Y | E _{a,ag} | N _p | Z |
| 1 | 2 | 3 | 4 | 5 | 6 |
| ⇒ 1 | 2 | 3 | 4 | 5 | 6 |
| | | | (_{ag} E _a 5) | | |
| | | | Core, ag | | |

B. Distribution of Q1 features:

| | | | | |
|-----|-------------|---|------------------|---|
| A | Q1 features | Y | proc | Z |
| 1 | 2 | 3 | 4 | 5 |
| ⇒ 1 | ∅ | 3 | 4 | 5 |
| | | | Q1 features of 2 | |

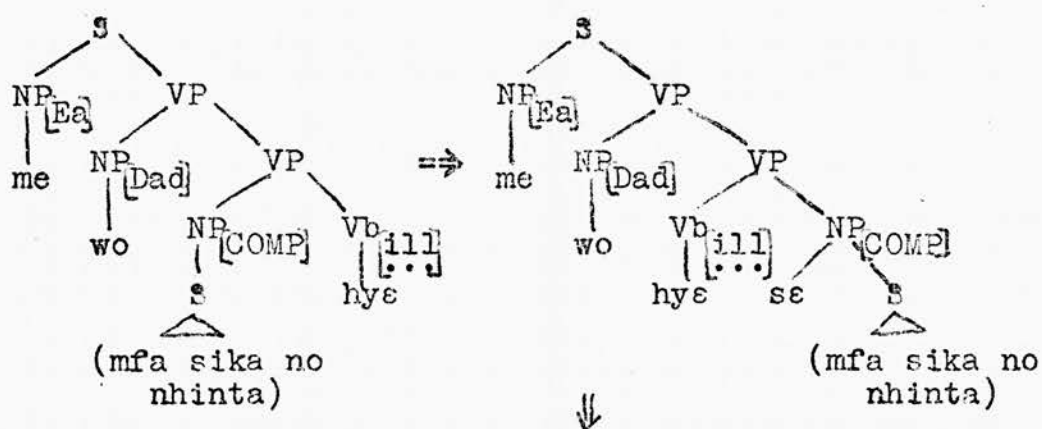
Condition: 2,3,4 are dominated by the same nucleus.

4. Constituent structure rules.

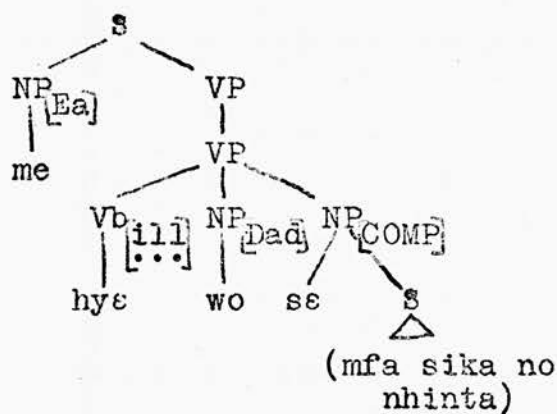
| | | | |
|---|----|---|------------------------|
| 1 | S | → | NP + VP |
| 2 | VP | → | NP + {VP Vb} |
| 3 | NP | → | {N (+Det) Pro S} |

1. The generator operates from the initial U 'downwards'.
2. An S is generated for every Core containing lexical elements.
3. As many NPs are generated for any S as there are lexicalised case feature bundles in the relevant Core.
4. An NP_[COMP] is developed as S; other NPs may be specified by the functional structure (e.g. pronouns in illocutionary Cores) and they will develop accordingly.
5. Features of functional structure are allocated to constituent structure thus:
 - a: ILL feature to S developed from Prop which ILL is in construction with;

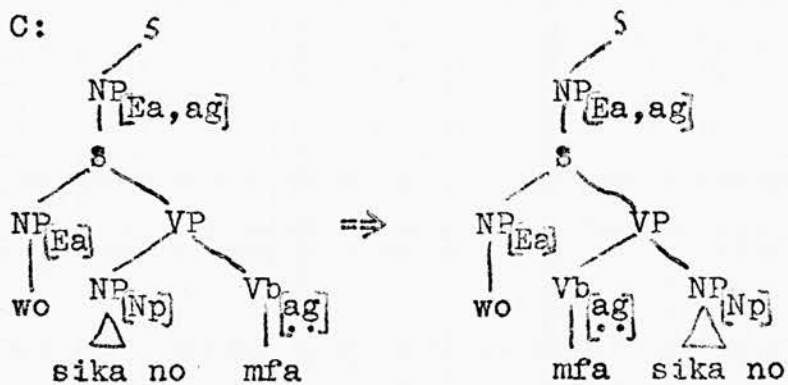
A:



B:



C:



b: Proc features in Core to Vb in S;

c: Case features in Core to NPs in S as follows:

- i. If there is an erg case feature bundle, assign to topmost NP;
- ii. Failing an erg, or if (i) has operated, assign nom case feature bundle to next topmost NP;
- iii. Failing a nom, or if (ii) has operated, assign dat, loc or ess to next NP;
- iv. Assign COMP to lowest NP.

5. Transformational rules:

Unless otherwise noted, it is to be understood that all the elements noted in the structural index are dominated by the same S, and no sub-string within the structural index is ^{immediately} dominated by another S.

I: Cyclic Rules: These apply to the most deeply embedded S and operate as often as possible on this S. Then to the next most deeply embedded S etc. They are ordered.

A: Complementising:

| | | | | | |
|---|---|----|---|---|--------|
| X | S | Vb | | | |
| 1 | 2 | 3 | ⇒ | 1 | 3 se+2 |

Conditions: 1 2 is the sole daughter of an NP [COMP]
 2 3 is ill

B: Dative, Locative, Essive re-ordering:

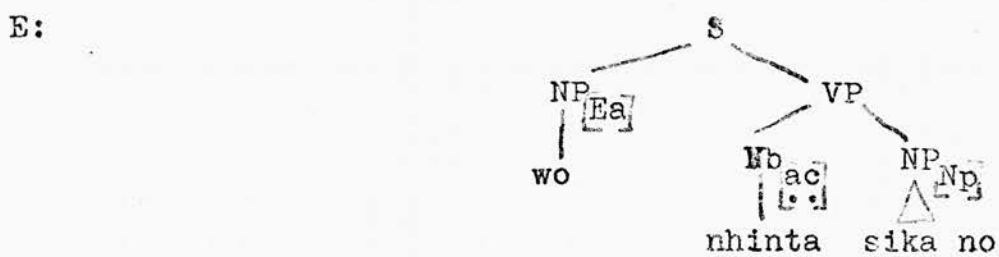
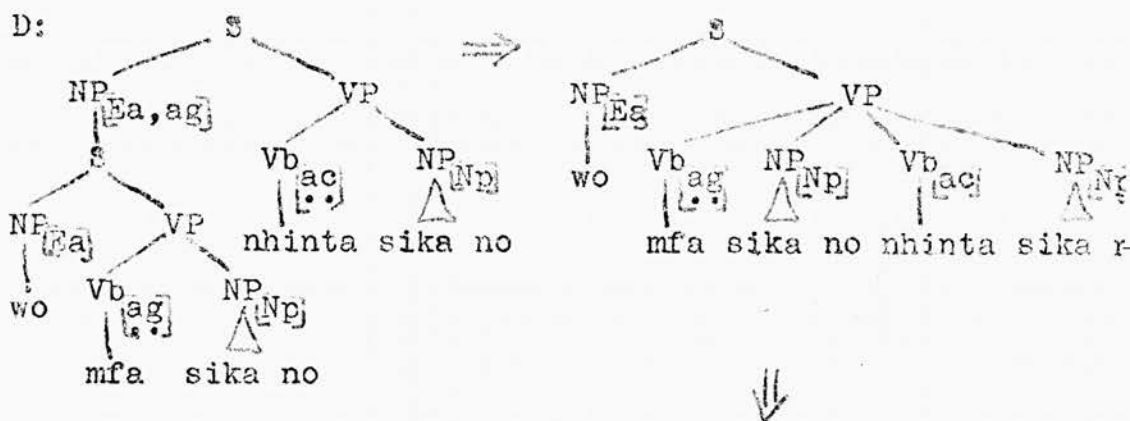
| | | | | | |
|---|----|----|---|---|---------|
| X | NP | Vb | Y | | |
| 1 | 2 | 3 | 4 | ⇒ | 1 3+2 4 |

Conditions: 1 1 contains another NP
 2 2 is dative, locative or essive

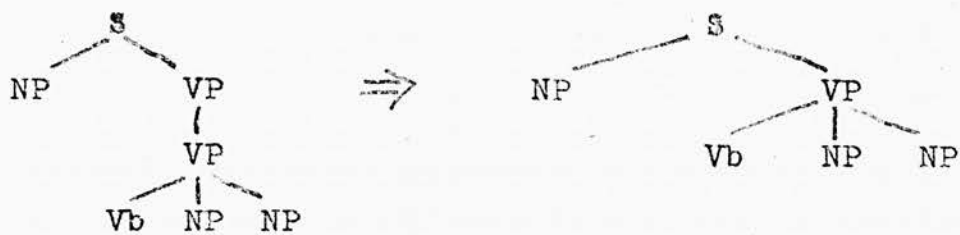
C: Nom re-ordering:

| | | | | | |
|----|----|----|------|---|---------------|
| NP | NP | Vb | (NP) | Y | |
| 1 | 2 | 3 | 4 | 5 | ⇒ 1 3(+4)+2 5 |

Conditions: 1 1 is ergative
 2 2 is nominative
 3 4, if selected, is dative
 4 5 may be null



F: (cf. output of B above)



D: Agent raising:

| | | | | | | | | | | | |
|-------------|----|--|----|----|---|---------------|---|---------|---|--|--|
| NP | Vb | NP | Vb | NP | X | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | \Rightarrow | 1 | 2+3+4+5 | 6 | | |
| Conditions: | 1 | 1 is <u>ergative</u> | | | | | | | | | |
| | 2 | 2 is <u>ac,ag</u> | | | | | | | | | |
| | 3 | 3 = 5 and both are <u>nominative</u> | | | | | | | | | |
| | 4 | 1-3 are dominated by an <u>S</u> which is itself dominated by an NP which is <u>ergative actor agent</u> | | | | | | | | | |

E: Agent deletion (optional):

| | | | | | | | | | | | | |
|-------------|----|--------------------------------------|----|----|---|---------------|---|-------------|-------------|---|---|---|
| NP | Vb | NP | Vb | NP | X | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | \Rightarrow | 1 | \emptyset | \emptyset | 4 | 5 | 6 |
| Conditions: | 1 | 1 is <u>ergative</u> | | | | | | | | | | |
| | 2 | 2 is <u>ac,ag</u> | | | | | | | | | | |
| | 3 | 3 = 5 and both are <u>nominative</u> | | | | | | | | | | |
| | 4 | 3 is not a pronoun | | | | | | | | | | |
| | 5 | 6 does not contain a locative | | | | | | | | | | |

F: Tree Pruning:

Any node which directly dominates another node which is its sole daughter, and which is identically labelled, is pruned.

II. Post Cyclic Rules.

These apply to the whole S after the cyclic rules have operated. We shall only take account of pronominalisation and pronoun object deletion rules. It is not, however, clear whether these rules should be post cyclic, or whether they should also be pre-cyclic, or indeed within the cycle. For our present purposes we may suppose that they are post-cyclic, and deal with the more 'purely grammatical' aspects of pronominalisation within a single S. Pronominalisation involves the addition of the feature +pro to the second of two identical NPs: in due course this NP will be realised as a pronoun. Pronoun object deletion deletes such pronouns under certain conditions, which are not examined

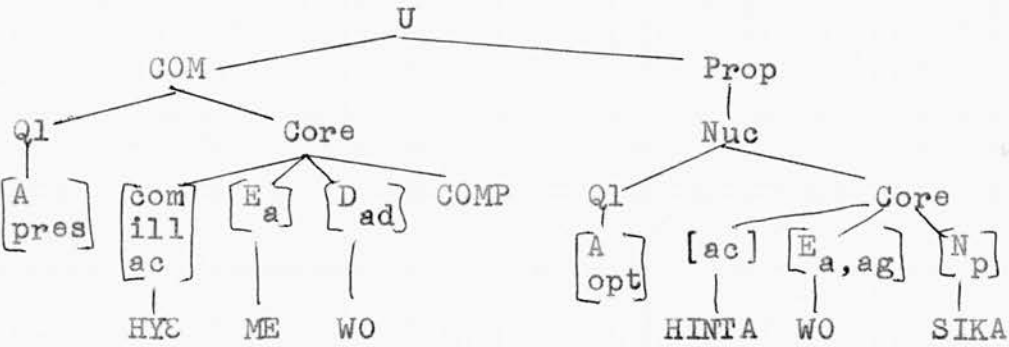
in detail here.

Nor are we concerned here with phonological rules. However, among the phonological rules that need to be mentioned are those that reorder the preterite aspect marker (making it a suffix) and those that delete the optative marker and the second person singular pronoun in 'direct imperatives'.

Sample derivation of the sentence:

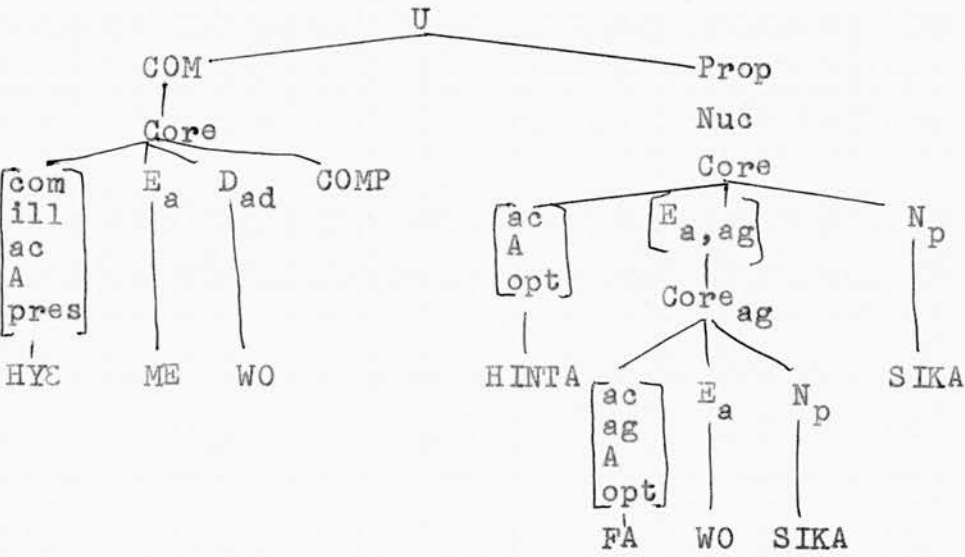
mehye wo se fa sika no hinta (I order you to hide the money)

Functional structure by composition rules, and lexicalisation:

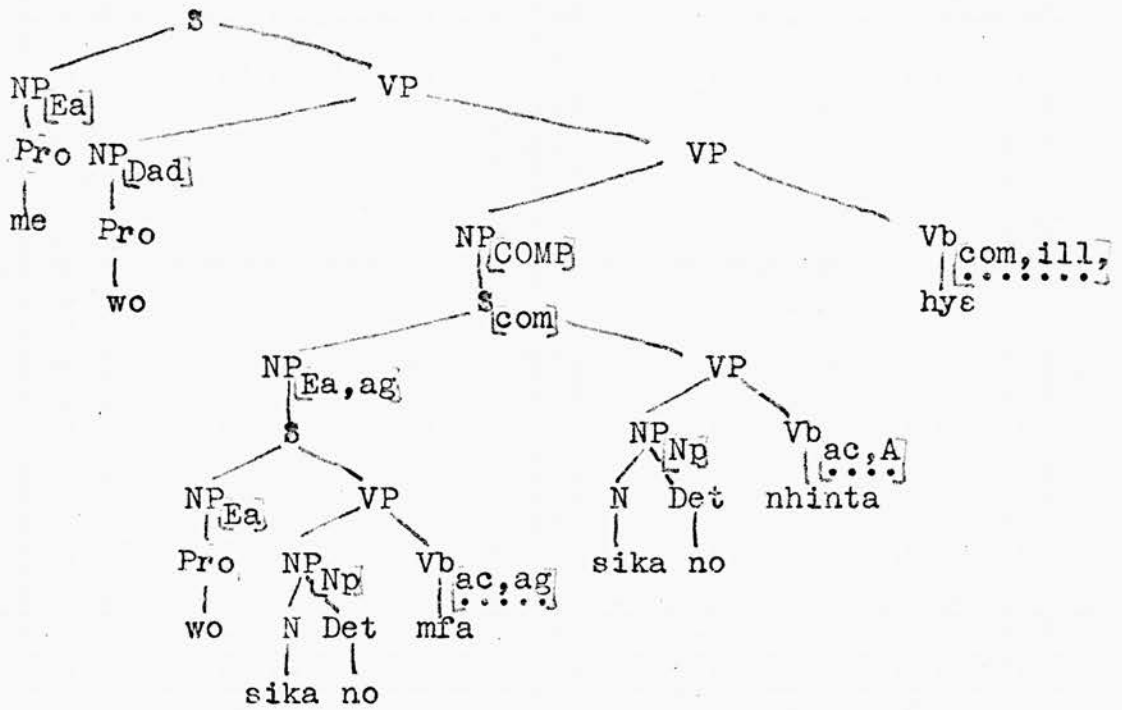


Offends no negative conditions and satisfies all positive conditions.

Ergative Agent Expansion (A), and Distribution of Q1 features (B):

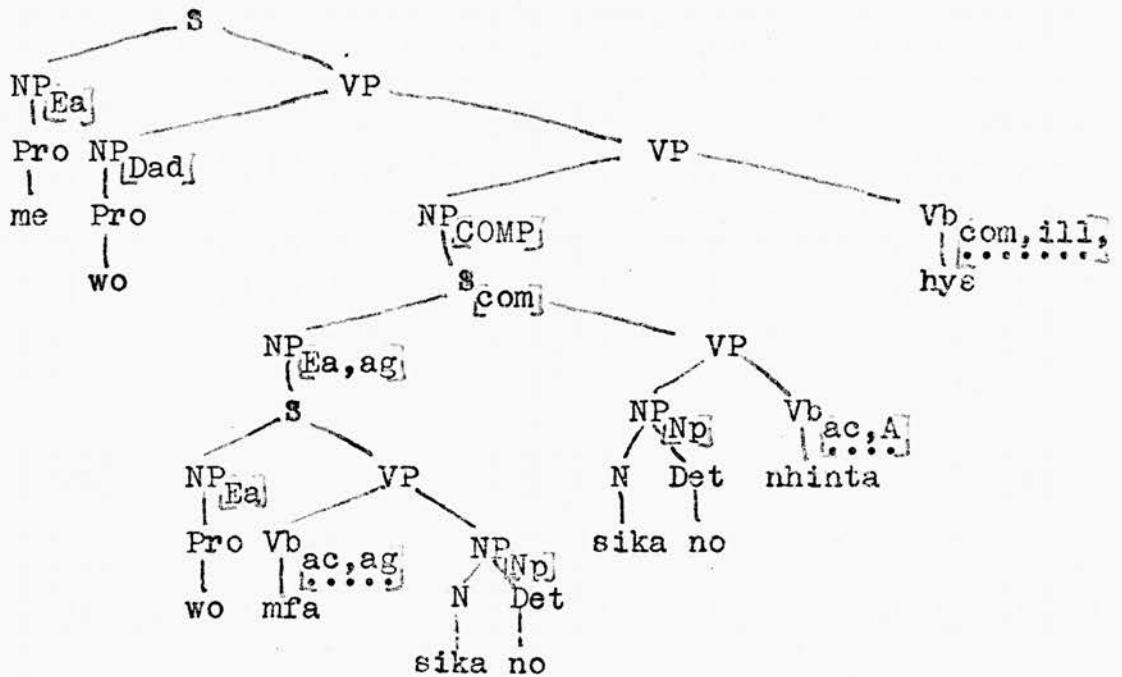


Constituent Structure and Assignment of Features:



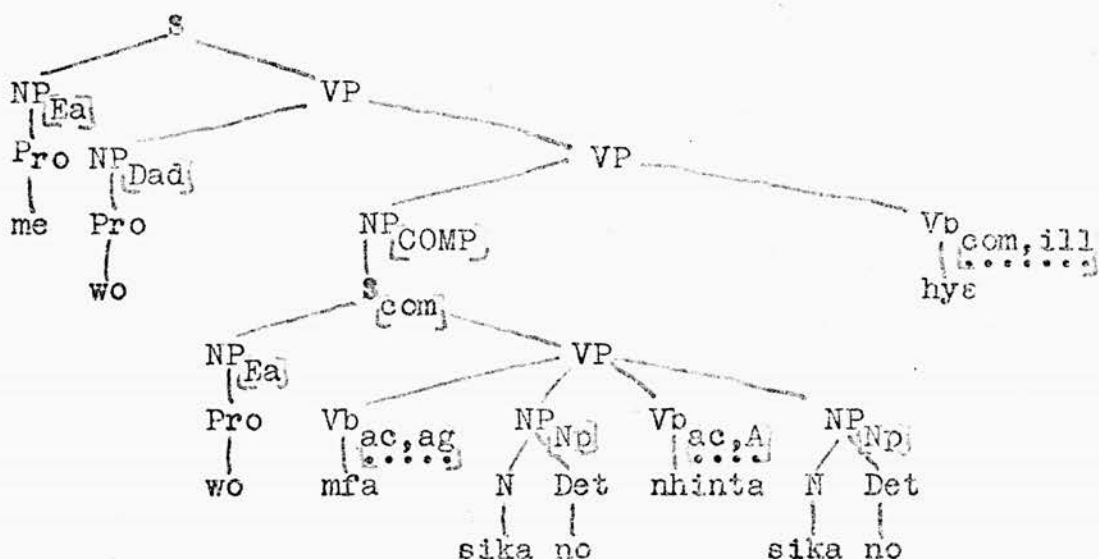
CYCLE I (on deepest S):

C (Nom Re-ordering)



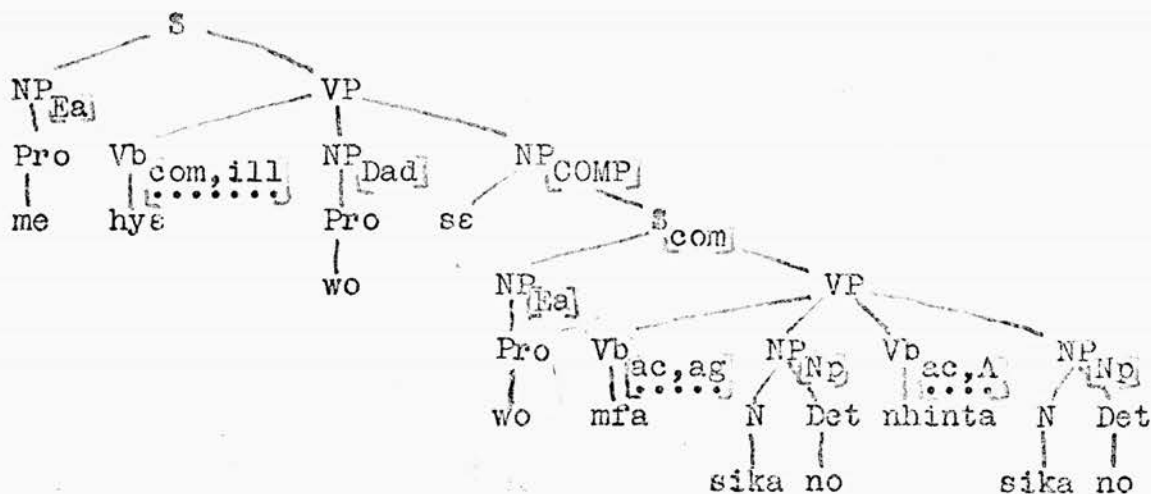
CYCLE II (on next deepest S):

C (Nom Re-ordering) and D (Agent Raising):



CYCLE III (on topmost S):

A (Complementising); B (Dative Re-ordering) and F (Tree Pruning)



By Pronominalisation and Pronoun Object Deletion:

me hye wo se wo mfa sika no nhinta sika no \Rightarrow

me hye wo se wo mfa sika no nhinta

By deletion of optative aspect marker, and second person pronoun subject of S_{com}:

me hye wo se wo mfa sika no nhinta \Rightarrow

me hye wo se fa sika no hinta.

II.4.5 Functional structure and semantic structure

Functional structure, it has several times been remarked, is considered to be Janus-like: it looks on the one hand towards the semantics and on the other towards the syntax. It is, as it were, the interface between syntax and semantics. The primary interest of this work, however, is in the syntax and not the semantics of the language, and for this reason, as it has also been remarked, the characterisations of functional structure here offered are established with an eye to the syntax rather than the semantics. We might look at the relationship in this way: if the semantics is concerned with an appropriate semantic structure ('This is what I want to say'), then it is the job of the functional structure to ensure that this structure is expressible in terms of the rules of syntax of the language ('O.K., but in that case this is the way you have to (or may) phrase it'). These two operations are not necessarily congruent, as can be inferred from the fact that one may have semantically well formed structures which are ungrammatical, and grammatically well formed structures that are semantically uninterpretable. As an example of the former consider the sentences:

1. *atadee no na Amma resce
2. atadee no ⁿma Amma resce no (It is the dress that
Amma is destroying)
3. atadee no ⁿma Amma repam (no) (It is the dress that
Amma is sewing)

PAM will permit object deletion, thus the sentence (3) either may or may not have pronominal reference to the deleted

object. SSE will not permit object deletion; (1) is unacceptable and (2) is the grammatical form. Examples of the latter would be sentences which involved contradictions, incompatibilities and other semantically ill-formed structures, which could be expressed in sentences which are, syntactically, perfectly well formed:

4a. *one m'agya na one me maame nso (*he is my father
and he is my mother too)

b. one m'agya na one me akyerɛkyerɛfoɔ no nso (he is
my father and also my teacher)

This is, of course, without even considering the contextual appropriateness of a given utterance: a situation which, as we are dealing with sentences rather than utterances, we have little or nothing to say about here. Indeed it would doubtless be possible to think of some context in which (4a) might be truthfully and plausibly uttered.

In an attempt to illustrate the position adopted above we will look at two areas of the interface: first a brief comparison of 'obligatorily' and 'optionally transitive' verbs, and secondly a preliminary examination of some problems connected with ergativity. It will be recalled from the discussion in II.2 above that an 'obligatorily transitive' verb is always associated in underlying structure with a two-place transitivity frame with both an erg and a nom case feature bundle.

As a preliminary investigation of the interface we look at some syntactic and semantic problems associated with the notions of 'transitive' and 'intransitive' verbs, 'ergativisation' 'agentivisation' and 'causativisation'. The

types of relationship between sentences associated with these names are those for which traditional grammar has given us a terminology, and some of them, particularly the latter three, have been the subject of considerable scholarly attention in recent times. The fact that these are the only relationships dignified with a name should not, however, blind us to the fact that there are many other types of relationship between the 'same' verbal lexeme in different transitivity frames. The position which is being adopted to such relationships is that they will be recognised, but that no attempt will be made to relate such sentences to each other in the grammar: I shall continue to consider them as derived from related but separate transitivity frames. The reason for this is simple: if we can see the range of transitivity frames open to verb lexemes, we may then be able to examine relationships between frames in a more comprehensive manner. For the relationships are many and various, as we shall see: furthermore there are many types of relationship, from those that involve the 'same' lexeme in two or more frames (like the ergative verbs, e.g. DUM 'put out, extinguish') to those that involve what may be thought of as 'suppletive' lexemes in complementary frames (like the ever popular KUM 'kill', WU 'die'; NIM 'know', HU 'perceive' etc.).

Since we will not use terms like 'ergativisation' as labels for processes within the syntax, they have no formal place in the description. Such terms are therefore used in a relatively informal manner to describe some general properties of individual frames or of sets of frames. It is,

nevertheless, useful to have some definitions of the way these terms are used.

A transitive verb is one that is associated in underlying functional structure with both an erg and either a nom pass or a nom conc case feature bundle. An obligatorily transitive verb is associated only with such a bundle and with no others. Thus:

5. meresua Twii (I am studying Twi)
oreboro abofora no (He is beating the boy).

As we shall see this does not necessarily imply that such a verb will never be found in the surface accompanied by a single NP: merely that in underlying structure, it is always associated with two case feature bundles.

An intransitive verb is one that is associated in underlying structure with either a nom or an erg case feature bundle, but not both. An obligatorily intransitive verb is only ever associated with a one-place underlying structure. Since there are different configurations of erg and nom case feature bundles, we will be able to refer to, for example, E_a action intransitives:

6. okyeame no rekasa (The linguist is speaking)
Amma regoro (Amma is playing)

N_p descriptive intransitives:

7. me ba yare (My child is ill)
wira no bon (The bush smells)

N_p action intransitives:

8. kanea no rehyiren (The lamp is shining)
ne ho repopo (He is shivering)

and so on.

As we shall see an obligatorily intransitive verb may be found in construction with a second NP: in such cases the second NP realises some other case feature bundle than nom pass or nom conc.

An optionally transitive verb is associated in underlying functional structure either with a structure containing both erg and nom case feature bundles (i.e. like a transitive verb), or only an erg (NOT a nom) bundle (i.e. like an E_a intransitive):

9. Kofi redidi (Kofi is eating, is at table)

Kofi redi n'awiaduane (Kofi is eating his lunch)

In the case of optionally transitive verbs the one place structure is not considered to be derived from the underlying two place structure by object deletion: each is a separate, though related, frame.

An ergative verb is one that can occur in either an underlying two place erg and nom structure, or a one place nom (not erg) structure:

10a. ogya no redum (The fire is going out)

b. Kofi redum ogya no (Kofi is putting the fire out)..,

where ogya no is the nom NP and Kofi, the erg. "The syntactic relationship that holds between (a) and (b) is (generally called) 'ergative': the subject of the intransitive verb 'becomes' the object of the corresponding transitive verb, and a new ergative subject is introduced as the 'agent' ...of the action referred to" (Lyons: 1968: 352). As we have already observed ergativisation is considered to be a relationship between transitivity frames like (1a,b) rather than a process within the grammar. The reasons are rather

similar to those offered in the previous section for considering the relation between the one and two-place frames with optionally transitive verbs a relation rather than a process within the grammar. Though, as with the optionally transitives, ergativisation may be considered a process in the semantics.

Ergativisation will be considered as having a wider import than simply between frames like those underlying ⁽¹⁰⁾(2). Thus the relationships between the following sentences is also considered as ergative, in the widest sense:

11a. kanea no si opono no so (The lamp is standing on the table)

b. Kofi de kanea no sii opono no so (Kofi stood the lamp on the table)

12a. Amma fura ntoma bi (Amma is wearing a cloth)

b. Kofi de ntoma bi furaa Amma (Kofi dressed Amma in a cloth)

Kofi furaa Amma ntoma bi

13a. aduaba no ahwete (The seeds are scattered)

b. Kofi de aduaba no ahwete (Kofi has scattered the seeds)
Kofi ahwete aduaba no.

Agentivisation is the relation that hold between such triplets of sentences as:

14a. ~~aduaba no ahwete~~ (The seeds are scattered)

b. Kofi de aduaba no ~~ahwete~~ (Kofi has scattered the seeds)

c. Kofi ~~ahwete~~ aduaba no (Kofi has scattered the seeds).

As with ergative verbs and ergativisation, the (a) sentence is not derived by erg deletion from the two-place sentence; nor the two-place sentence by a syntactic process of agentivisation from the one-place sentence. Each is a

separate, though related, transitivity frame. The one place sentence has the analysis $N_p Vb_{inch}$ and the two place sentence the analysis $E_{a,ag} Vb_{ac} N_p$. The specification $E_{a,ag}$ leads to the development of an 'agentive core' in the derivation of the sentence. The underlying structure of ^(14b,c) ~~(7b,c)~~ is, however, ~~a~~ transitive ~~sentence~~: the relationship of agentivisation is, once more, mediated through the syntax. I have already argued (Chapter II, 3.1) that sentences like (b,c) should be regarded as 'simple sentences', in spite of the fact that (b) contains 'two verbs'. During the derivation of the sentence the agentive core may, as it were, be realised in the surface, as in (b), or, if agent raising has applied the sentence may be realised as the two-place surface sentence (c).

We have already noted that there are some transitivity classes that do not permit 'agent raising', either absolutely with verbs like SI 'stand etc.': ~~transitive~~

15. Kofi de kanea no sii pono no so (Kofi stood the lamp
on the table)

*Kofi sii kanea no pono no so

or under certain specified conditions, like FURA 'wrap round', wear etc.': ~~transitive~~

16. Kofi de ntoma no furaa Amma (Kofi dressed Amma in
Kofi furaa Amma ntoma the cloth)

*Kofi de furaa no (Kofi dressed her in it)

*Kofi furaa no no

As will be appreciated from the transitivity analyses offered in the preceding section agentivisation is not applicable to any of the classes of sentences under

discussion in this chapter. Thus, for instance, there are no sentences:

17. *Kofi de n'awiadidi redidi (cf. 5)

*Kofi de ogya no redum (cf. 6).

Causativisation is yet another distinct process, this time a process which is within the syntax. It involves an overt verb of cause, generally MA 'make, cause':

18a. osuo ama ogya no adum (The rain has made the
fire go out)

b. Kwaame ama Kofi adum ogya no (Kwaame has made Kofi
put the fire out)

c. mframa no maa aduaba no hweteyɛ (The wind made the
seeds scatter)

d. akuafoɔ no maa adwumafoɔ no de aduaba no hweteyɛ
(the farmer made the workmen scatter the seeds)

e. merebɛma Kofi de kanea no asi opono no so (I will
make Kofi put the lamp on the table).

It will be observed that in (a) an intransitive nucleus is causativised; in (b) the transitive ergative nucleus corresponding to the intransitive (a) is causativised; in (c) we have another causativisation of an intransitive nucleus; in (d) the agentivisation of (c) is causativised; (e) shows the causativisation of a transitivity type that we have not yet examined in detail (but cf. (9) above).

Note that the agentive de and the causative ma are distinct. Thus there are no sentences (cf. 11a, 11d):

19. *nsuoto de ogya no adum

*akuafoɔ no de ne adwumafoɔ no de aduaba no hweteyɛ.

Similarly, while we may find both:

20a. Kofi de aduaba no hweteyɛ (Kofi scattered the seeds)

b. mframa no maa aduaba no hweteyɛ (The wind scattered
the seeds)

they are regarded as being derived from different underlying structures. The (a) sentence, like ^{14b}(7b) above, is derived from an underlying transitive structure - $E_{a,ag} Vb_{ac} N_p$. The (b) sentence is derived by the causativisation of an underlying intransitive structure which we may represent as $E_a Vb_{cause}(N_p Vb_{inch})$. It will be seen that causativisation, unlike both ergativisation and agentivisation IS a syntactic process.

As a general cover term for both ergativisation and agentivisation, I shall employ the term transitivity. It may be observed that transitivity does not apply in the case of the optionally transitive verbs (cf. ⁹(5) above), and that causativisation is not considered to be a transitivity relationship.

To summarise: An obligatorily transitive verb appears in a frame:

21. erg -- nom

An intransitive verb in ^{either of} the frames:

22a. erg --

b. nom --

An optionally transitive verb in the frames:

23a. erg --

b. erg -- nom

An ergative verb in the frames:

24a. nom --

b. erg -- nom

(this may be generalised to include the locative and dative etc. verbs illustrated in (11-13); An agentivised verb in the frame:

25. erg,ag -- nom

(agentivised verbs may be obligatorily transitive (like

SIE (cf. II.4.1(11)) or may be ergative (like HWETE cf. (II.3(41)).

They cannot be intransitive. Ergative verbs are not necessarily, or usually, agentivised). Causativisation is a process which may apply to any of the above verb types.

In the sections which follow we examine some of these areas of interaction in a little more detail.

II.4.5a. Obligatorily transitive and optionally transitive verbs¹

PAM 'sew' is an obligatorily transitive verb. In underlying structure it is always associated with the two-place transitivity frame:

1. A: ac Ea Nc

i.e. it is associated with two underlying NPs. Now consider the following sentences:

2a. Amma repam atadee no (Amma prog+sew dress the: Amma is sewing the dress)

b. yerepam atadee no ('they'+prog+sew dress the: The dress is being sewn)

c. Amma repam adee (Amma prog+sew 'thing': Amma is sewing)

d. yepam adee ha ('they'+(hab)+sew 'thing' here: 'one' sews here; sewing goes on here; 'this is a dress making place' etc.)

e. Amma repam (Amma prog+sew (it): Amma is sewing it)

f. yerepam ('they'+prog+sew (it): It is being sewn)

but not:

h. *atadee no repam

1. Stewart, 1963a, contains data and discussion relevant to this section: my debt to this article is implicit throughout this section.

There are two subject expressions (Amma and ye-) and two object expressions (atadee no, and adee). The former may be associated with the underlying Ea case feature bundle, the latter with the underlying No bundle.

Of the subject expressions Amma, a proper name, requires no special comment. I shall refer to ye as a 'non-referring erg'. Morphologically it is identical to the 'first person plural' pronoun (ye- 'we'): ¹ its syntax is however markedly different, and this is discussed in detail in IV.3.2. For our purposes we may regard the non-referring erg as similar in function to the French on, German man, and appropriate uses of the non-referring English they, one; cf.:

3. yeka Twii ha ('they'+(hab)+speak Twi here: Twi is spoken here; on parle ...).

It is also frequently used, as in the relevant sentences in (1), in circumstances which in English might call for an agentless passive ("where the active subject is unknown or cannot easily be stated" Jespersen, 1924:167): there is no passive voice in Twi

I shall consider the non-referring ye- as a pronoun characterised by the features -def(inite) -id(identified): cf. Chapter I.4.e. Within the syntax -def -id pronouns are undeletable.

For our purposes we may note that verbs like PAM require Ea subjects, and that when the subject is "unknown or cannot easily be stated", then ye- must be used: note the ungrammaticality of (h).

-
1. Hence, of course, all the relevant sentences are, in fact ambiguous as between the non-referring glosses given and a gloss 'we are sewing the dress' etc. In the latter sense, with which we are not concerned, these sentences do not materially differ in syntax from the sentences with the proper name subject. It is difficult to find an appropriate gloss in some cases.

Of the object expressions, atadee no, requires no comment. adee I shall refer to as a 'non-referring nom' expression. Its syntactic characteristics are comparable to those of the non-referring erg discussed above, and are discussed in further detail in IV.3.2. Like the non-referring erg, the non-referring nom is characterised as -def -id.

Let us now turn to the sentences (e,f): these have no overt object expression, yet, it is averred, ~~that~~ they are 'understood transitively': i.e. they are understood in the senses glossed as having undergone object deletion. Object deletion, as we have already seen, is not applicable to all verbs; it does seem however to be generally applicable to all obligatorily transitive verbs. For reasons which are more fully discussed in Chapter IV, it seems best to regard object deletion as an operation which occurs after pronominalisation: i.e. that object deletion only applies to definite and identified items under pronominalisation, indeed it seems more satisfactory to refer to the process as object pronoun deletion. Now it will be argued that -def -id items, since they are non-referring, cannot by their nature be either definitised or identified. Other items, which are either definite or identified or both may be definitised or identified. This account is consistent with the gloss offered for (e,f): and it may be noted that these sentences are always understood as though the object were definite and identified, they could not be glossed as 'Amma is sewing something', 'Amma is sewing' etc. Note, for instance that non-referring expressions cannot be clefted:

4. yen na yerepam atadee no (We 'it+is' we+prog+sew dress the: CAN be understood as 'It is us who are sewing the dress' (cf. fn. above) but NOT¹ as 'It is 'they' who are sewing the dress'.¹

And so we will find sentences like:

- 5a. atadee no na Amma repam (Dress the 'it+is' Amma prog+sew it: It is the dress that Amma is sewing)
 b. atadee bi na Amma repam (It is a dress that Amma is sewing)

but not:

6. *adee na Amma repam.

It will be observed that in (5a) that portion of the sentence after na is identical to (2f). This goes to support the contention that (e,f) do not derive from a deleted 'non-referring object' - there are both syntactic and semantic reasons for this point of view.

It may be helpful once more to adopt some of Halliday's terminology to comment on the distinctions involved (cf. discussion in II.3(13) above). (a,b,e,f,) are 'goal oriented'; (e,f) are 'goal intransitive'; (c,d) are 'process oriented', but they must, obligatorily be 'goal transitive'. Or put in another way, (c,d) are 'understood intransitively' but have a surface two-place form; (e,f) are 'understood transitively' but have a surface one-place form.

PAM, then, is a deeply transitive verb: it is always associated with an Ea and an Nc case feature bundle. Either the subject or object or both may be filled by a non-referring

-
1. Compare the comparable situation in English. We may have the non-referring expression 'they are always rioting in the University', which is roughly paraphrasable as 'there is always rioting in the university': this cannot be clefted as 'It is "they" who are always rioting...'. On the other hand we may have 'They (the students) are always rioting' and this can be clefted to 'It is they (the students) who are always rioting'.

expression, but they must be filled. Non-referring expressions may not be deleted. They may also be filled by referring or potentially referring expressions: they may, in appropriate conditions be definitised or identified, under conditions of pronominalisation the object must then be deleted.

The situation with optionally transitive verbs is quite different. Consider the verb DI 'eat'. This is associated with either a one or two-place transitivity frame:

7. A: ac Ea
A: ac Ea Nc.

Consider the following sentences:

8a. Kofi redidi (Kofi prog+red+eat: Kofi is eating, Kofi is at table).

b. Kofi redi n'awiaduane no (Kofi prog+eat his 'dinner the: Kofi is eating his dinner)

c. Kofi redi (Kofi prog+eat (it): Kofi is eating it)

n'awiaduane no with the Nc bundle. We may note in passing that there is no sentence like:

9. *Kofi awiaduane no redidi

which might be supposed to derive from a one-place Nc underlying structure; but that we might attest a sentence like:

10. yeadi Kofi awiaduane no ('they'+perf+eat Kofi dinner the: Kofi's dinner has been eaten)

with a non-referring erg expression - remarks already made about non-referring ergs are still applicable.

In the sense of 'be in the process of eating, be at table' etc. (i.e. process/oriented in Halliday's terms) DI is used intransitively. We may observe that Christaller remarks of the object of verbs like DI "It is not a necessary complement (because the verb gives a complete sense

without it) and is, therefore, equal to an adjunct of cause" (Chr:200:3). In this sense the stem is always reduplicated. We may note that a sentence like:

11. Kofi redi adee (Kofi prog+eat thing)

which may be compared with the similar sentence with PAM (2c) is somewhat anomalous (comparable, perhaps, with the English 'he kicked me with his foot'). But there is no restriction on sentences like:

12. Kofi redi aduane no nyinaa (Kofi prog+eat food the all:
Kofi is eating all the food)

13. Kofi redi aduane bi (Kofi prog+eat food some: Kofi is
eating some food)

etc. (Just as 'he kicked me with both feet' is not anomalous in English).

When used transitively DI, like PAM, is subject to object deletion: thus (8c) must be understood as 'Kofi is eating it' not as 'Kofi is eating'.

With optionally transitive verbs, DI is something of a special case since the reduplicated and the simple form appear to be more or less mutually exclusive in the intransitive and transitive senses. Other similar verbs are less restrictive. We have already discussed KAN briefly in II.3. We may also note examples like:

14a. Amma reseresere (Amma prog+red+laugh: Amma is laughing)

b. Amma resere Kofi (Amma prog+laugh Kofi: Amma is
laughing at Kofi)

a. Kofi rekyerewkyerew (Kofi prog+red+write: Kofi is
writing)

b. Kofi rekyerew nwoma bi (Kofi prog+write letter a:
Kofi is writing a letter).

With such verbs there is a tendency for the intransitive sense to involve reduplication, and the transitive to be unredupli-

cated. The transitive may however be reduplicated, when it is understood iteratively etc.:

15. Amma ~~sereseree~~ Kofi (Amma laughed and laughed at Kofi) and the intransitive may be unreduplicated:

16. Amma resere (Amma is laughing).¹

First let us discuss the syntactic lessons to be drawn here. From the evidence offered there seems to be overwhelming syntactic evidence in favour of the analyses offered in (1) and (7) in favour of distinguishing between obligatorily and optionally transitive verbs. As we have indicated both (2c) and (8a) may be described as 'process orientated' yet one is in the surface intransitive and the other transitive. It only complicates the syntax unnecessarily to postulate that the intransitive (8a) is derived in the syntax from an underlying transitive where the object is deleted and the verb reduplicated, since that would involve postulating a special kind of non-referring object introduced only in order to be deleted (since the non-referring adee cannot as we have seen be deleted). Alternatively it does not seem sensible to derive the transitive (2c) from an underlying intransitive with an object introduced (rather as the verb DI is considered above to be reduplicated on non-referring object deletion) during derivation. Any solution

1. Unlike the comparable sentence with KAN (II.3(10)ff.) this is unambiguous in the sense given since SERE does not take an inanimate object, and animate object expressions, though they can be pronominalised cannot generally be deleted. 'Amma laughed at the picture' would have to be rendered as, say: mfonini no maa Amma sereye.

of this sort complicates the syntax unnecessarily, since even if we were to simplify our account of the process oriented transitives/intransitives it would complicate the intransitive (object deleted) goal oriented sentences. No, from the point of view of the syntax, the solution offered is clearly the right one.

What now of the semantics? Let us suppose that both eating and sewing require objects in the semantics: let us suppose that one must sew something, and must eat something (as has been supposed by a long line of linguists for English, cf. Chomsky: 1965; Katz and Postal, 1964, etc.) and let us further suppose that senses like 'Amma is sewing' and 'Amma is eating' have semantic representations of the form:

- 17a. Amma eat (process oriented) 'thing'
- b. Amma sew (process oriented) 'thing'

and let us further suppose that 'thing' is non-referring in the sense in which this has hitherto been used (and is thus to be distinguished from 'something' which is, potentially at least, identifiable and specifiable). Suppose further that on lexicalising the verb, we find that the verbs DI and PAM have the specifications offered in (17¹⁷). We may now suppose that on lexicalisation, since PAM requires an object, but since the semantics does not specify it, the grammar will supply adee. DI, on the other hand, has a frame which does not require an object: in this case, therefore, the non-referring object is not realised.

Note that the suggestion here is rather similar to those made with respect to illocutionary verbs in an earlier section. All sentences require an illocutionary mark, but

this is not realised as a performative in general, and the syntax does not generate a structure for it unless it is required. Similarly it is a fact about the syntax of PAM that it requires an object expression: so the syntax must provide one. DI on the other hand does not, so the syntax does not produce one. From a semantic point of view both may need an object, as suggested in (17), but from a syntactic point of view, only PAM needs one.

The contrary position is, of course, equally arguable. That since both verbs are process orientated, neither has a semantic object, and hence lexicalisation provides a dummy object in the case of PAM, but no object in the case of DI.

The same position may be argued in the case of the non-referring erg. Thus a sentence with the sense 'the dress is being sewn' might have a semantic representation of the form:

18. 'person' sew (goal oriented) dress

where 'person', like 'thing' already discussed is non-referring. On lexicalisation it will be found that PAM requires a subject expression, hence the syntax provides the non-referring ye-. Similarly, a sentence like (2d) may be derived from a semantic structure of the form:

19. 'person' sew (goal oriented) 'thing' here

where both subject and object expressions are non-referring.

The semantic structures offered in (17-19) are, clearly, completely ad hoc, since, as we have remarked, it is the syntax that is at issue in this work. The point at issue, however, is an important point, and may be illustrated

by two lengthy quotations:

"The distinction between obligatory and optional roles helps us to relate transitivity functions to a system of clause types. As, however, this involves recognising that an 'obligatory' element may in fact be absent, we shall use the term inherent rather than obligatory. An inherent function is one that is always associated with a given clause type even if it is not necessarily expressed in the structure of all clauses of that type. (We are not here talking about ellipsis, which is a matter of textual structure)

"Consider a pair of clauses such as (20)

20a. Roderick pelted the crocodile with stones

b. The crocodile got pelted

the verb pelt as it happens, is always associated with three participant roles: a pelter, a pelted and something to pelt with; and this holds for (b) as well as for (a)... So

21. Roderick pelted the crocodile is '(inherently) instrumental', and although no instrument is mentioned the receiver interprets the process as having an instrument associated with it" (Halliday, 1970:150).

"The conceptually necessary arguments to a predicate cannot always be matched on a one-to-one basis with the ... number of obligatorily present syntactic constituents in expressions containing the predicates in question...

"The verb blame has associated with it three roles, the accuser (Source), the defendant (Goal), and the offense (Object). Expressions with this verb can contain reference to all three, as in (22), just two, as in (23,24) or only one, as in (25).

22. The boys blamed the girls for the mess.

23. The boys blamed the girls.

24. The girls were blamed for the mess.

25. The girls were blamed.

No sentence with blame, however, can mention only the accuser, only the offense, or just the accuser and the offense. See (26-28).

26. *The boys blamed

27. *The mess was blamed

28. *The boys blamed (for) the mess.

"An examination of (26-28) reveals that the case here realised as the girls is obligatory in all expressions containing this verb, and importantly, that there are two distinct situations in which the speaker may be silent about one of the other arguments. I take sentence (24) as a syntactically complete sentence, in the sense that it can appropriately ^{initiate} a discourse (as long as the addressee knows who the girls are and what the mess is). In this case the speaker is merely being indefinite or non-committal about the identity of the accuser. I take sentence (23), however, as one which cannot initiate a conversation and one which is usable

only in a context in which the addressee is in a position to know what it is that the girls are being blamed for. Another way of saying this is that (24) is a paraphrase of (24') and (23) a paraphrase of (23').

23'. The boys blamed the girls for it

24'. The girls were blamed for the mess by someone.
(Fillmore, 1969: 118-9). (My numbers have been substituted for his).

These quotations seem to be in the same spirit as my proposals. Semantically a verb may have a number of case feature bundles associated with it (as in 17-19); syntactically these need not all appear in a well formed sentence. It is the function of the composition rules and of lexical entries to see that the input to the syntax is in a form the syntax can use - hence the ungrammaticality of (26-28) above. (Incidentally, it may be noted that I make a distinction in Twi between 'someone' and 'person' (the indefinite pronoun and the non-referring erg) in sentences analogous to Fillmore's examples (24'): the parallel gloss in my usage would be 'the girls were blamed for the mess by 'person''.)

As a final comment at this stage, it may be remarked that the above remarks are made without prejudice to the possibility of the semantics having any number of processes going on in it prior to the presentation of its output to the composition rules. Thus, for example, it may be convenient in the semantics to have rules of object deletion for verbs like DI, or, perhaps to have rules of incorporation for verbs like DI. Incorporation is discussed by Gruber (1965), and mentioned by Fillmore: "An example of a verb with an 'incorporated' Object is dine, which is conceptually the same as eat dinner but which does not tolerate a direct object" (1969:119). This may be an appropriate

solution for the intransitive DI which I have glossed as 'be in the process of eating, be at table'. In this work I am not concerned with any process that I shall consider, like incorporation, to be essentially part of the semantic component.

II.4.5b. Causative and ergative relationships

In II.2 we discussed some syntactic distinctions between causative and ergative constructions. In examining the pair of sentences:

- 1a. *ogya no redum* (fire the prog+go-out: The fire is going out)
- b. *Kofi redum ogya no* (Kofi prog+put-out fire the: Kofi is putting the fire out)

we noted that the new erg subject in (b) may be regarded as the 'agent' of the action referred to. In causative sentences the causative verb may be regarded as introducing the 'cause' or 'source' of the action. It is not, in practice, always easy to distinguish between 'agent' and 'cause'. Consider, however, the following set of sentences:

- 2a. *opono no paepaeye* (door the red+split+pret: The door split)
- b. *Kofi paepaee opono no* (Kofi red+split+pret door the: Kofi split the door)
- c. *owia no paepaee opono no* (sun the red+split+pret door the: The sun split the door)
- d. *owia no maa opono no paepaeye* (sun the 'cause'+pret door the red+split+pret: The sun made the door split)
- e. *owia no nti, opono no paepaeye* (sun the because, door the red+split+pret: because of the sun, the door split)
- f. *Kofi maa opono no paepaeye* (Kofi 'cause'+pret door the red+split+pret: Kofi caused the door to split)
- g. *Kofi nti, opono no paepaeye* (Kofi because, door the red+split+pret: Because of Kofi, the door split).

In (a) no cause or agent is specified: the door just split: it is the description of an event. In (b) we may assume that Kofi has attacked the door with an axe, or kicked it, or in some way was the agent responsible for actually splitting the door:

3a. Kofi de akuma paepaee opono no (Kofi take axe red+split+pret door the: Kofi split the door with an axe)

b. Kofi too opono no anankotie paepaeye (TO ANANKOTI 'kick': Kofi kick+pret door the (kick) red+split+pret (it): Kofi kicked the door and split it)

(Note in (3a) the instrumental is introduced with the auxiliary de; (3b) is a serial sentence). (2c) we will return to. In (d) the sun is seen as the cause of the door's splitting: it may have shone upon it and dried it out etc., thus causing the door to split. The sun is not, however, actually seen as an agent. (e) is a paraphrase of (d). (f) and (g), which are paraphrases, are difficult to contextualise: it may be that Kofi failed to cover the door, or to paint it, or oil it or something of the sort. He is seen here as the cause of the door's splitting, but he did not himself actually split it. Thus (b) is not, in general, a paraphrase of (f), since in (b) it is assumed that Kofi actually split the door himself. (c) offers some difficulty, since it might be considered a paraphrase of (d), since the sun was not only the cause, but in a sense also the agent, in the way that forces of nature may be regarded as capable of actions. Perhaps a different example will clarify the matter:

4a. ogya no adum (fire the perf+go-out: The fire has gone out)

- b. Kofi adum ogya no (Kofi perf+put-out fire the: Kofi has put the fire out)
- c. nsuo no iadum ogya no (rain the perf+put-out fire the: the rain has put the fire out)
- d. nsuo no ama ogya no adum (rain the perf+'cause' fire the go-out: the rain has caused the fire to go out)
- e. Kofi ama ogya no adum (Kofi perf+'cause' fire the perf+go-out: Kofi has made the fire go out)

(b) would be appropriate if Kofi scattered the fire, or in some other way extinguished it; (e) would be more appropriate if Kofi had failed to feed the fire or had done something which caused the fire to go out. In both (c), (d) the rain could have fallen on the fire. Or consider again the sentences:

- 5a. aduaba no hweteyɛ (seeds the scatter+pret: The seeds scattered)
- b. Kofi de aduaba no hweteyɛ (Kofi take seeds the scatter+pret: Kofi scattered the seeds)
- c. Kofi maa aduaba no hweteyɛ (Kofi 'cause'+pret seeds the scatter+pret: Kofi made the seeds scatter)
- d. mframa no de aduaba no hweteyɛ (wind the take seeds the scatter+pret: The wind scattered the seeds)
- e. mframa no maa aduaba no hweteyɛ (wind the 'cause'+pret seeds the scatter+pret: The wind caused the seeds to scatter).

In (b) Kofi might have scattered the seeds by hand, as a sower, say. In (c) this could not apply: he might have shaken a tree full of seeds, blown on the seeds, or opened the door so that the wind dispersed them, but he did not do it by hand. Similarly, whereas (e) is easily contextualisable - the wind shook a tree, say - (d) is less easily contextualisable since the wind is now seen in the role of 'agent' scattering seed.

As another example consider the sentences:

- 6a. Kwaame ani furaye (ANI 'eye(s)'; FURA ANI 'go(become) blind; blind (transitive): Kwaame eyes go-blind+pret: Kwaame went blind)
- b. wira no furaa Kwaame ani (dust the blind+pret Kwaame eyes: Dust blinded Kwaame)
- c. Kofi furaa Kwaame ani (Kofi blind+pret Kwaame eyes: Kofi blinded Kwaame)
- d. Kofi maa Kwaame ani furaye (Kofi 'cause'+pret Kwaame eyes go-blind+pret: Kofi caused Kwaame's blindness)
- e. wira no maa Kwaame ani furaye (dust the 'cause'+pret Kwaame eyes go-blind+pret: The dust caused Kwaame to go blind)

One implication of (b,c) is that the dust itself blinded Kwaame, or that Kofi himself blinded Kwaame (he put his eyes out for instance); the implication of (d) is that Kofi was responsible but not the agent.

Or again consider the distinctions possible with a verb like BERE. BERE may be classified into a number of different process classes (cf. Chapter 3), and in each process class the sense is somewhat different. Thus BERE (stative descriptive) 'be red'; BERE (active inchoative) 'ripen'; BERE (active action)¹ 'burnish':

- 7a. sika bere (gold(cont)+be-red: gold is red)
- b. kookoo no rebere (cocoa the prog+ripen: the cocoa is ripening)
- c. sikadwumfo bi bere sika (goldsmith a (hab)+burnish gold: a goldsmith burnishes gold)

1. These terms have been introduced informally in II.2 above: they are not fully discussed until Chapter III. It may be helpful to consider the distinctions drawn to be comparable to those that exist in English between the different senses of 'smell/be smelly' in the sentences 'the rubbish dump smells/is smelly' (stative); 'the rubbish dump is getting/becoming smelly' (inchoative); 'I smell the rubbish dump' (active). It will be noted that in the examples (7) and (8) there are some difficulties in arriving at an appropriate morpheme by morpheme gloss. It seems clear that the different senses of BERE are semantically related: many fruits redded as they ripen; Ashanti gold has a reddish colour when burnished (and is burnished using jeweller's rouge). Similarly also the different senses of HYIREN in (8). I have, however, chosen in the morpheme by morpheme gloss to use an English 'translation' based gloss to assist the reader.

- d. owia no rema kookoo no abere (sun the prog+'cause'
cocoa the consec+ripen: the sun is ripening
the cocoa)
- e. owia no rebere kookoo no (sun the prog+ripen cocoa the
- f. *sikadwumfoo bi ma sika bere (*goldsmith a (hab)+
'cause' gold (cont)+be-red: a goldsmith causes
gold to be red; NOR *goldsmith a (hab)+'cause'
gold (hab)+burnish: a goldsmith causes gold
to burnish).

(a-e) are fully acceptable; (f) is not: might one, perhaps, suppose that goldsmiths cannot be the cause of gold being red, nor can they cause gold to burnish itself?

From the preceding account it is hoped that a case has been made for distinguishing ergativisation from causativisation. It may also give one pause to consider the nature of the relationship between the one-place and the two-place frames with ergative verbs, since this is neither straightforward nor uniform semantically, as can be seen from the examples with BERE above. As a further example consider the following sentences:

- 8a. kanea no hyiren (lamp the (cont)+be-bright: The lamp
is bright)
- b. kanea no rehyiren (lamp the prog+shine: The lamp is
shining)
- c. Kofi rema kanea no ahyiren (Kofi prog+cause lamp the
consec+shine: Kofi is shining the light)
- d. Kofi rehyiren kanea no (Kofi prog+turn-up lamp the:
Kofi is turning the light up)

In (a) HYIREN may be considered as a stative descriptive verb, in (b) it is an active action verb. The sense 'Kofi is shining the light' must be rendered as in (c), since the ergativised (d) has the sense given. Compare:

- 9a. Kofi rema kanea no ahyiren mpoma no mu (Kofi prog+
cause lamp the consec+shine window the in: Kofi
is shining the light through the window)
- b. Kofi rehyiren kanea no mpomma no mu (Kofi prog+turn-up
lamp the window the in: Kofi is turning up the
lamp in the window)

These facts are semantically consistent with the account of ergativisation and causativisation already given. It also shows some of the difficulties that can arise from considering that "the subject of the intransitive verb becomes the object of the corresponding transitive verb and a new ergative subject is introduced as the 'agent' of the action referred to". Which of the intransitive verbs in (a,b) is ergativised in (d)?

There are, it seems, good reasons both syntactic and semantic for distinguishing causativisation and ergativisation: causativisation is a relation which is overt in the syntax and involves a verb of cause like MA, ergativisation is not overt in the syntax since it involves simply a two-place verb. In other words, in the syntax what I shall refer to as causativisation involves a structure which may be represented as:

10. NP cause (Predication)

whereas ergativisation is a process that is inferred in the syntax from the fact that some verb stem may appear in both transitive and intransitive sentences. It will be observed from the account in II.2 that no syntactic distinction is drawn between ergativised two-place structures and other two-place structures (which may involve 'optionally transitive' or 'obligatorily transitive' verbs). From a purely syntactic point of view there seems to be no reason to distinguish between sentences like:

11a. Kofi redum ogya no (Kofi prog+put-out fire the: Kofi
is putting the fire out)

- b. Kofi redi n'awiadidi no (Kofi prog+eat his 'dinner
the: Kofi is eating his dinner)
- c. Kofi repam atade: bi (Kofi prog+sew dress a: Kofi
is sewing a dress)

although DUM is an ergative verb, DI an optionally transitive verb and PAM an obligatorily transitive verb.

It is suggested that the distinction between these verbs lies in the semantics, and in the lexical entries of each verb (which defines the range of transitivity frames into which they may fit). Let us now examine the semantics of ergative verbs and make some comments on the possible arrangement of some semantic rules.

Let us for the moment suppose that the intransitive sentences are not further analysable (since most of them involve inchoative verbs this is possibly not the case, but it is a convenient assumption for the present). Thus we may represent the semantic structure underlying a sentence such as:

12. ogya no redum (fire the prog+go-out: The fire is going out)

as a simple one place predication; which may be generalised (taking into account our former case and process specification as:

13. (Np Vb_{inch})

Let us now suppose that the underlying semantic representation corresponding to the ergative and causative sentences:

- 14a. Kofi redum ogya no (Kofi prog+put-out fire the: Kofi
is putting the fire out)
- b. nsuo no rema ogya no adum (rain the prog+'cause' fire
the consec+go-out: The rain is putting the
fire out)

may be represented as:

- 15a. E_a 'agent' (N_p Vb_{inch})
- b. E_a 'cause' (N_p Vb_{inch}).

Suppose, now, that there is a rule of the semantics that obligatorily contracts structures like (15a), rather as follows:

$$16. \quad E_a \text{ 'agent' } (N_p \text{ Vb}_{inch}) \Rightarrow E_a \text{ Vb}_{ac} N_p$$

The frame on the right is the transitivity frame proposed for verbs like DUM. The structure (15b) presents more problems. Clearly it may be directly realised in a sentence like (14b). It seems, however, that there may be a case for also allowing this frame to contract as in (16) since we also find the sentence:

17. nsuo no redum ogya no (rain the prog+put-out fire the:
The rain is putting the fire out - cf. 4c and discussion).

However, as we have noted, there are cases where the contraction is somewhat inappropriate contextually. We might therefore propose a three way distinction:

- 18a. $E_a \text{ 'agent' } (N_p \text{ Vb}_{inch})$
 b. $E_a \text{ 'cause' } (N_p \text{ Vb}_{inch})$
 c. $E_a \text{ 'cause' } (N_p \text{ Vb}_{inch})$
 'agent'

where the (a) and (c) frames will contract, but not the (b) frame. This offers some help in distinguishing the relevant semantic structures: it may, however, be considered too specific since sentences like (17) might perhaps be considered as 'unclear' as to their agency and the proposed three way distinction in (18) does not necessarily make this entirely clear. Nevertheless, for the moment, we will accept semantic structures like (18).

There is now a further question we should consider. With sentences like (12) there does not seem to be any

necessity to postulate an underlying erg node which has been deleted. Such a proposal leads to the sort of complications we have already discussed with respect to optionally transitive structures in the previous section. Certainly as far as the syntax is concerned there seems to be no advantage in postulating 'dummy' erg subjects, nor does the semantics appear to require them. Furthermore, as with the optionally transitive verbs we will find sentences with non-referring erg expressions:

25a. Kofi redum ogya no (Kofi prog+put-out fire the: Kofi is putting the fire out)

b. yeredum ogya no ('they'+prog+put-out fire the: The fire is being put out).

Before rounding up the discussion a final point may be made. Thus far we have been insisting on the distinction between operations in the syntax and those in the semantics. As far as the semantics is concerned ergativisation may be considered to be a process: this is implicit in such characterisations as (18): as far as the syntax is concerned ergativisation is not a process, but a relationship between transitivity frames. Causativisation, on the other hand, is considered to be a process in the syntax, cf., for example (14b) as well as a process in the semantics, cf. (15b). There turn out to be a number of verbs that are 'obligatorily intransitive' - thus, for example:

19a. nsuo no rehuru (water the prog+boil: the water is boiling)

b. Kofi rema nsuo no ahuru (Kofi prog+'cause' water the consec+boil: Kofi is boiling the water)

c. *Kofi rehuru nsuo no (*Kofi prog+boil water the)

The intransitive (a) may be causativised (b), but HURU has no

transitive form. This fact would be recorded in the list of transitivity frames HURU may enter, thus blocking the ungrammatical (19c). Conversely there are obligatorily transitive verbs that have no intransitive counterparts:

- 20a. Amma renoa aduane no (Amma prog+cook food the: Amma
is cooking the food)
b. *aduane no renoa (*food the prog+cook)
c. *Amma rema aduane no anoa (*Amma prog+'cause' food
the consec+cook).

Now it may be that, from a semantic point of view, it would be desirable to treat HURU and NOA as in some sense parallel, perhaps related to one of the analyses (15), however it is clear that they are not parallel from a syntactic point of view, and this fact is accounted for by the fact that each would be recorded as entering a different set of transitivity frames: HURU an intransitive, but not a transitive, frame, and NOA a transitive, but not an intransitive, frame.

The suggestion made here is that it is the role of the composition rules and conditions, together with lexical entries that condition well formed syntactic structures.

Let us now summarise the position adopted. The function of the composition rules and conditions and of lexical entries is to ensure that the input to the syntax is well-formed for the purposes of the syntax. This input is referred to as the 'functional structure'. If it is regarded as the output of the semantics, then any number of semantic rules may have operated on it before it is presented to the composition rules and conditions. In this way we may ensure that each component, the syntactic and the semantic, does its proper job: the job of the syntax is to

generate grammatically well-formed sentences: the job of the semantics is to generate semantically well-formed sentences. The fact that ^{at} the level of functional structure there is some considerable congruence is to be expected. We do not, however, suppose that they must be exactly congruent.

In this section we have been trying to explore some identities and differences between the two kinds of structure. It will be clear that I do not entirely accept the solution to the sort of problem we have been discussing offered by the 'generative semanticists'. We have only examined a small part of the ergativity system in the language, and already we have seen that to make the semantic structure itself the basis for syntactic structure, without any intervening controls, is undesirable. On the one hand the generative semanticist position is simplistic (since it generally deals with rather restricted semantic structures), on the other it is over-complicated since it attempts to deal with syntactic problems within the semantics and vice versa.

CHAPTER THREE: THE VERB.

III.1 Introduction:

The grammar of the verb word is complex, and many aspects of it, notably its morphophonemics, are outside the scope of this work, which centres round problems connected with transitivity frames. For a discussion of the morpho-phonemics of the verb word in a generative model the reader is referred to Schachter and Fromkin, 1968. The output of the grammar with which we are concerned here is similar in most respects to the input to the phonological component assumed by Schachter and Fromkin.¹

In this chapter, and generally throughout the work, a terminological distinction is drawn between the form of the verb word, and the categories of the verb. Thus in the sentence:

1. Kofi rekasa (Kofi is talking)

rekasa, the verb word, is said to be in the 'progressive' form. This word may be related to a verb stem (KASA) and a set of underlying categories described in terms of features, in this case active, present, progressive. In terms of the description discussed in the previous chapter, the verb stem is associated with the process marker in the core, and the categories with the node Q1 in construction with the core. At a later stage in the derivation of the

1. My general debt to Schachter and Fromkins analysis will not be acknowledged point by point, but will be clear, particularly in III.2 below. Other discussions of verb forms in Twi include Christaller, 1906; Boadi, 1966; Stewart, 1963.

sentence Q1 features are mapped onto the Verb and a constituent structure rule provides the relevant morphological structure of the eventual verb word.

In III.2 we discuss verb words. These are identified by the names used by Christaller, as continuative, habitual, progressive etc. We are only concerned here with finite verb forms, and it is convenient to discuss these forms in relation to their morphological structure. The verb word consists minimally of an aspect (ASP) morph and a verb stem (VS), and, is generally readily segmentable into corresponding morphs:

- 2a. Kofí rekasá (Kofi is talking)
re+kasá: ASP+VS; progressive form
- b. Kofí békása (Kofi will talk)
bé+kása: ASP+VS; future form
- c. Kofí kasáye (Kofi talked)
kasá+ye: ASP+VS; preterite form

The ASP morph is generally a prefix, as in (2a,b) but may be a suffix, as in (2c). ASP is intended to account both for the segmental morph (re-; bé-; -ye) and for some features of the tonal superfix, the precise shape of which depends partly on the ASP morph concerned, and partly on the phonological structure of the verb stem concerned. In the case of the continuative and habitual forms, there is a zero segmental morph; but ASP has a tonal realisation:

- 3a. Kofí hye ekyé (Kofi is wearing a hat - continuative)
- b. Kofí hyé ekyé (Kofi wears a hat - habitual).

In addition to ASP and VS morphs, a verb word may

optionally contain other morphs: these are identified as negative (NEG), ingressive (ING) and reduplicative (RED). The most usual order is:

4a. ASP (+NEG) (+ING) (+RED) +VS

b. Kofí rénkasá (Kofi will not speak)

re+n+kasa: ASP+NEG+VS

c. Kofí rebəhwehwé (Kofi is coming to look at it)

re+bə+hwe+hwe: ASP+ING+RED+VS

d. Kofí rénkəkásá (Kofi is not going to speak)

re+n+kə+kasa: ASP+NEG+ING+VS

NEG, ING and RED have implications for tonal as well as segmental behaviour.

In certain syntactic environments the verb may take what I shall refer to as the subjunctive form (SUB). The subjunctive form is transformationally derived. The implications of SUB are largely for the tonal superfix of a word, though in some cases there is also a verb final, or sentence final, suffix. Thus compare the following with (2a):

5. Kofí na órékásá (It is Kofi who is talking)

ə+re+kasa: subject prefix+ASP+VS+SUB

For the suffix compare:

6a. Kofí renanté (Kofi is walking)

re+nante: ASP+VS

b. Kofí na órénántéé (It is Kofi who is walking)

ə+re+nante+e: Subj. pref. +ASP+VS+SUB

Finally, when the subject of the verb is a pronoun, this is prefixed to the verb word. The maximal morph string of the verb word may thus be represented by the verb

word in sentences like:

7. Aden na orenkohwehwe (Why will ^hhe not go and look at it).

o+re+n+k_o+hwe+hwe: SC+ASP+NEG+ING+RED+VS+SUB.

It is convenient to discuss the various forms of the verb word with reference to the paradigm of the simple indicative affirmative verb, since this paradigm shows the greatest morphological differentiation with respect to ASP. In the discussion which follows, therefore, we discuss the maximal paradigm, related to the underlying form ASP+VS in III.2.2a; the negative paradigm ASP+NEG+VS is discussed in III.2.2b. Forms involving ING are discussed in III.2.2d; RED in III.2.2e; SUB in III.2.2f and SC in III.2.2g. The optative paradigm is discussed in III.2.3.

III.2, then, is essentially a discussion of the various forms that the verb may take.

In III.3 we discuss the distribution of the forms of the verb word, and the underlying aspectual categories. From the point of view of the main theme of this work, the establishment of transitivity frames, this section is crucial since it discusses the basis of the as yet unjustified distinction drawn in Chapter 2 between the three major process classes: action, descriptive and inchoative.

III.2. The forms of the verb word:

III.2.1 Introduction:

In this section our major concern is with the forms of the finite verb word, and its segmentation into segmental

morphs and tonal superfixes. The identification of the underlying categories is discussed in the following section, III.3. As we have observed, the underlying structure of the verb word may be analysed as:

1. (SC)+ASP(+NEG)(+ING)(+RED)+VS(+SUB)

As we have noted, the morphophonemics of the verb word, and particularly its tonal morphophonemics is complex and largely outside the scope of this work. However, in order to demonstrate some of the major possibilities examples are given involving a monosyllabic (HYE 'wear, put on') and a disyllabic (FURA 'wear, put on') verb stem.¹ Some further aspects of the tonal morphology are illustrated from the use of a subject with a high tone final vowel (Kofi) and another with a low tone final vowel (Asare): both are proper names. We are not concerned here with other aspects of the syntax of these or other verbs used, and the reader is invited to consult the appropriate following chapter.

The account given here, then, is by no means a full account of the morphophonemics, or morphographemics of the verb word: it is merely hoped that sufficient will be said to enable the reader to follow the discussion elsewhere, and particularly in III.3 below. Since, however, most of the examples quoted here and elsewhere are in a modified form of the orthography, some attempt is made to explain the

1. FURA is appropriate to articles of clothing that wrap round the body, like ntoma 'cloth'; HYE is appropriate to articles of clothing that some part of the body is inserted into, like ekye 'hat'.

principles followed: in order to do this I have distinguished between the orthographic representation of a morph, and its phonological realisation. Thus, for example, the 'progressive' aspect marker has the representation re- and a phonological realisation that depends on the phonological and syntactic environment; for example:

2. Kofí rekó [kofíikó] (Kofi is going)

Asare rekó [asareekó] (Asare is going)

Tone is more extensively marked in this section than elsewhere in the work: but is not used where the point at issue does not depend on it.

III.2.2a. The simple indicative affirmative paradigm

There are six forms in this paradigm, identified by the following names:¹

- | | | |
|-------------------|---------------------|--------------------------|
| 1: cont(inuative) | a. Kofí hye ekyé | (Kofi is wearing a hat) |
| | b. Asare fura ntomá | (Asare is wearing cloth) |
| 2: hab(itual) | a. Kofí hyé ekyé | (Kofi wears a hat) |
| | b. Asare furá ntomá | (Asare wears a cloth) |

1. In the examples noted here the nominal prefixes are retained, as they are generally throughout the work. In fact, in normal speech, as we have noted in Chapter II, some prefixes generally elide. The prefixes are retained here in order to demonstrate, by the use of tone markings, the different tonal junctures associated with the various verb forms. Note particularly, the junctural distinction in this paradigm between the future and the other forms (in that the prefix on the following noun is raised in tone with the future, but not the other forms). As a rule of thumb guide to the actual phonetic forms that the examples here represent, we may take three cases: The E prefix, as in ekyé generally elides: thus compare the phonetic representations below with the corresponding examples in (1-6):

[Contd.]

- 3: prog(ressive) a. Kofí rehyé ékyé (Kofi is putting a hat on)
 b. Asare refurá ntomá (Asare is putting cloth on)
- 4: fut(ure) a. Kofí béhyé é'kyé (Kofi will put a hat on)
 b. Asare bé'fúrá ntomá (Asare will put cloth on)
- 5: pret(erite) a. Kofí hye ékyé (Kofi put a hat on)
 b. Asare furáa ntomá (Asare put cloth on)
 c. Kofí de hyeyé (Kofi put it on)
 d. Asare de furáye (Asare put it on)
- 6: perf(ect) a. Kofí á'hyé ékyé (Kofi has put a hat on)
 b. Asare afúrá ntomá (Asare has put cloth on)

The continuative: there is no affix. The tone pattern on the stem is always low.

The habitual: there is no affix. The tone pattern on the stem depends on the tone class of the verb in question. Generally speaking with monosyllabic verbs the stem tone is high (as shown in (2a)), and with disyllabic verbs it is low high (as shown in (2b)) There are a few disyllabic verb

Contd.]

cont: [kofíhyékyé]
 hab: [kofíhyékyé]
 prog: [kofíhyékyé]
 fut: [kofíbéhyé'kyé]
 pret: [kofíhyékyé]
 perf: [kofíá'hyékyé]

Note the falling tone on a short vowel in hab. prog. and perf., and the downstep in fut. The A prefix, as in aboforá 'child' does not elide. Under certain conditions, however, a final vowel on the verb word may assimilate in quality to the vocalic prefix. Thus Kofí hwé aboforá nó 'Kofi looks at the child' (hab.), where the verb forms of HWE are parallel to those of HYE in (2-6) above, will be realised as:

hab: [kofíhwaáboforánó]
 prog: [kofíhwaáboforánó]
 fut: [kofíbéhwaáboforánó]
 pret: [kofíhwaaboforánó]
 perf: [kofíá'hwaaboforánó]

The N prefix does not elide either: thus the phonetic realisations of the relevant forms in (1-6) are:

cont: [asarefurantomá] hab: [asarefurantomá]
 fut: [asarebé'fúrántomá]
 and so on.

stems with a tone pattern high high: they may be said to pattern morphologically like monosyllabic verbs. Thus the following minimal distinctions may be noted:

7. opám (he drives it away)

opám (she sews it)

osóré (he worships)

osoré (he gets up)

A few monosyllabic verbs have a low stem tone. In many cases these are verbs where the CV stem also has an alternant form CVrV or CVnV: in their disyllabic form they are regular:¹

8. ede edéré (it blazes)

ekye ekyeré (it delays; it is late)

Other CV stems also have CVrV or CVnV alternants. Thus note the triplet:

9. ohyén ohyené (he enters)

ohyén (he blows it (sc. a horn): no CVnV alternant)

The progressive: There is a prefix represented as re-: it always has low tone. The tone of the stem is generally identical to that of the habitual. Thus compare the following with the appropriate examples in (7-9):

10a. oresóré (he is worshipping)

oresoré (he is getting up)

b. erede erederé (it is blazing)

c. orewá orewaré (he is getting taller)

orewaré (he is getting married: no CV alternant)

1. There is, of course, no overt morphological distinction between a verb with a low tone habitual, and a verb in the continuative: the distinction between the forms is established on syntactic and distributional, rather than on morphological, criteria.

The morph that I represent as re- is so represented in the orthography. In the Akuapem dialect, from which the orthography derives in this respect, this also represents the pronunciation. In the speech of Kwahu the realisation of this morph depends on the phonological environment. If the subject of the verb ends in a vowel other than /a/, this vowel is lengthened:

11. *merekó* [meekó] (I am going)
Kofí rekó [kofíikó] (Kofi is going)
Asare rekó [asareekó] (Asare is going)

If the subject ends in /a/, then re- is realised as [ɛ] or [e] depending on the vowel series of the stem:

12. *Kwabená rekó* [kwabenéekó] (Kwabena is going)
Kwabená retú [kwabenéetú] (Kwabena is digging it)

If the subject ends in a nasal consonant then there is no segmental realisation of the progressive:¹

13. *Ntím rekó* (Ntim is going) [ntímkó]

The future: there is a prefix represented as be or be depending on the vowel series of the stem. It is realised as /be/ or /be/. This prefix invariably has high tone. In monosyllabic verbs there is no downstep between prefix and stem; with disyllabic verbs there is downstep between prefix and stem: compare the following with the relevant examples in (7):

-
1. In fact in rapid speech a murmur vowel is generally epenthesised between a word final nasal consonant and a subsequent word initial consonant:
- | | | |
|--------------------|-----------------|---------------|
| <i>efun no</i> | (the corpse) | [efuneno] |
| <i>nsuomnam no</i> | (the fish) | [nsuomnameno] |
| <i>Ntim reko</i> | (Ntim is going) | [ntimeko] |

14. obépám (he will drive it away)

obé'pám (she will sew it)

obésóré (he will worship)

obé'sóré (he will get up)

The preterite: there is a suffix, represented either as -ye, or as a doubling of the stem final vowel or consonant. The representation -ye is used when the verb is pre-pausal (obligatorily), or when it is nucleus final, but not prepausal (optionally). -ye is realised either as a palatal glide /-y/ or as /-ye/:

15. okoye [okoy]; [okoye] (he went)

obaye [obay]; [obaye] (he came).

When the verb is not nucleus final (obligatorily) or where it is nucleus final but not before pause (optionally), then the preterite is represented as a doubling of the stem final vowel (or consonant), and realised as a long vowel, or consonant.

16a. okoo ho [okooho] (he went there)

b. obaa ha [obaaha] (he came here)

c. okumm no [okumm no] (he killed him)

The distinction between nucleus final, nucleus non-final and prepausal may be illustrated as follows. The locative complement in (16a,b - ho 'there' ha 'here') is regarded as a nuclear function with verbs such as ko 'go' and ba 'come'. Thus the forms *okoye ho *obaye ha are unacceptable. It is, however, an optional function, even though it is nuclear, and consequently the forms in (15) are also acceptable, where the verb is pre-pausal. In such

sentences as (15) the forms *okoo and *obaa are unacceptable. Nucleus final, but non pre-pausal, environments may be exemplified in the phrases:

- 17a. onipa aa obaa no ... (the man who came...)
 b. onipa aa obaye no ...

(17) may be analysed as onipa (aa onipa no baye) no (man(rel. man the came) the). Pronominalisation of onipa no in the relative clause yields aa obaye. The verb form is nucleus final, in the sense that it is nucleus final in the embedded relative clause, hence the form (17b) is acceptable; it need not, however, be prepausal, since one does not generally find pause within an NP, hence the form (17a) is also acceptable. The alternative forms of (17a,b) may be compared with the sentences:

- 18a. onipa aa obaa ha no ... (the man who came here ...)
 *onipa aa obaye ha no ...

where the verb is not, as was noted above, nucleus final.

The tone of the suffix is low; stem tones differ as between mono- and di-syllabic verbs, as may be seen in the paradigm.

The perfect: there is a prefix, represented as a-; and realised as [a] or [e] depending on the vowel series of the stem. Stem tones are high. The tone of the prefix is variable, since it assimilates in pitch to the preceding tone bearing unit: this leads to downstep if the preceding tone bearing unit is high tone, as in the examples in the paradigm. In discussions in this chapter, I shall mark 'assimilible' tone bearing units as $\frac{V}{X}$. The correct shape of the tonal

7. Kofi nkó (n+kó) (Kofi doesn't go: hab neg)

Kofi nkóye (ń+kó+ye) (Kofi hasn't gone: pret neg).

NEG is represented as -m- when it precedes labial consonants, and as -n- elsewhere:

8. ompa (he doesn't scrape it); omfa (he doesn't take it)

onto (he doesn't buy it); onko (he doesn't go)

The negative is realised as a nasal consonant homorganic

with the consonant it precedes: [ompa]; [omfa]; [onto];

[onko] etc. Voiced oral stops are nasalised following neg:

9. omma (*omba) (he doesn't come)

onni (*ondi) (he doesn't eat it)

onnyina (*ongyina) (he doesn't stop it)

The continuative negative: there is no ASP affix.

The NEG morph is $\frac{N}{X}$, i.e. a homorganic nasal with an

assimilable tone. The tone pattern on the verb stem may

be compared to that of the habitual affirmative, but the

junctional features between verb and object differ both

from that of the continuative affirmative and the habitual affirmative.

The habitual negative: there is no ASP affix. The NEG morph is N, i.e. a homorganic nasal with low tone. The tone pattern on the stem may be compared to that of the habitual affirmative, or continuative negative, but the junctional pattern is different. Thus compare:

10. Kofi mfurá ntomá (Kofi isn't wearing cloth: cont neg)

Kofi mfurá ntomá (Kofi doesn't wear cloth: hab neg)

11. Asare nhyé é'kyé [asarenhyé'kyé] (Asare isn't wearing a hat: cont neg)

Asare nhyé ékyé [asarenhyékyé] (Asare doesn't wear a hat: hab neg)

The future negative: the ASP prefix is ré-, with high tone. The NEG morph is N, i.e. a low tone homorganic nasal. The stem tone pattern resembles that of the habitual or progressive affirmative, but note the different juncture pattern:

12. Kofí rehyé ékyé (Kofi is putting a hat on: prog aff)

Kofí rénhýé é'kyé (Kofi won't put a hat on: fut neg)

Kofí béhyé é'kyé (Kofi will put a hat on: fut aff).

The segmental realisation of re- is as with the progressive affirmative: Kofí rénhýé ... [Kofíínhyé...]; Asare rénhýé ... [Asaréénhyé ...].

The preterite negative: ASP is represented by a prefix a, realised as [a] or [ə], with assimilable tone. NEG is represented as N, i.e. a low tone homorganic nasal.

The perfect negative: ASP is represented by a suffix -ye or by doubling of the stem final segment: the distribution of these forms, and their realisation, is identical to that of the preterite affirmative, discussed above. NEG is realised as N, i.e. a homorganic nasal with assimilable tone.

From the above discussion it will be clear that there are two areas of particular interest here: the habitual progressive and future affirmative and the habitual and future negative; and the perfect and preterite affirmative and negative. In these cases there is considerable cross patterning of segmental morphs, tonal superfixes and junctural patterns. These may best be demonstrated by a simple comparison of paradigms:

| | | |
|--------------|---------------|-----------------|
| 13. hab aff | ohyé ekyé | ofurá ntomá |
| prog aff | orehyé ekyé | orefurá ntomá |
| fut aff | obéhyé é'kyé | obé'fúrá ntomá |
| hab neg | onhyé ekyé | omfurá ntomá |
| fut neg | órénhyé é'kyé | órémfurá ntomá. |
| 14. pret aff | ohyee ekyé | ofuráa ntomá |
| perf aff | a wáhyé ekyé | wáfúrá ntomá |
| pret neg | wanhyé ekyé | wamfurá ntomá |
| perf neg | onhyee ekyé | omfúráa ntomá |

It will be clear from a simple inspection of these forms that there is considerable cross-patterning in the tonal and segmental affixes involved, so that a straightforward morphological correlation of these forms is not possible. Consider, for example, the forms for FURA: the segmental morphs for pret aff and perf neg (i.e. suffixed vowel) and for perf aff and pret neg (i.e. prefixed a-) are identical; but the tonal superfix on the verb stem for pret aff and pret neg (L H) and for perf aff and perf neg (H H) are also identical. Similar morphological cross-patterning can be seen in the hab-prog-fut paradigm.

The positive-negative correlation noted here follows the identification adopted by, inter alia, Stewart (1963); Boadi (1966); Redden (1963); Akrofi (1937) and Schachter and Fromkin (1968). It is based on the characteristic patterning of these forms in distributional terms, and also on their meaning.

Consider first the preterite and perfect forms. The distribution of these forms in question and answer sequences

may be observed in sentences like:

15. Q: Kofi faye anaa? (Did Kofi take it?)

A: Daabi, wamfa (No he didn't take it)

Q: Kofi afa anaa? (Has Kofi taken it)

A: Daabi, omfaye (No he hasn't taken it)

and co-occurrence restrictions with time adverbials:

16. Kofi baa nnora (Kofi came yesterday)

Kofi amma nnora (Kofi didn't come yesterday)

but not:

17. *Kofi aba nnora

*Kofi mmaa nnora

It is however interesting to observe that Christaller identifies the forms in the contrary fashion (i.e. preterite obaye, negative preterite ammae). This is justified by concentrating on what we might call the aspectual features of verb meaning, rather than the more temporal features implied in the association adopted in this work. Thus Christaller's description of the usage of the various forms reads: "The preterite tense expresses an action performed and finished in (a point) of past time" e.g. obaye nnora 'he came yesterday' (169); "The negative form of the preterite implies that the action has not yet been performed in the time present to the speaker ... but leaves open the question whether it will be, or was, performed afterwards" e.g. ammae 'he has not yet come' (170); "the perfect tense expresses an action performed and completed in the past time, but continuing in its results or effects in the time present to the speaker" e.g. waba enne 'he has come today' (and is now here)(171); "the negative form of the perfect tense implies

that the non-performance of an action is a decided fact in the time present to the speaker" e.g. wamma 'he has not come' (and the time for his coming is past) (172). These distinctions may be illustrated by sentences such as the following:

18a. obaa nnora (he came yesterday)

b. wamma nnora (he didn't come yesterday (he didn't come yesterday (and 'the time for his coming is past' - clearly so since it^{is} now today, and he can no longer come yesterday!))

c. *ommaye nnora (clearly, since the time of the speech act is today, he may not still be expected to arrive yesterday).

d. ommaye na ebia obeba (he hasn't come, but perhaps he will) (i.e. the time for his coming is not yet past)

e. wamma na oremma (he didn't come, and he won't - the implication being that the time for his coming is past)

It may be noted that in the (d,e) sentences the exchange of the verb form would not render the sentences unacceptable, but it would change the presuppositions with respect to his arrival.

This is clearly an area in which further research is necessary, which might, perhaps, lead to a more delicate specification of the temporal and aspectual categories that underlie these forms than is attempted here.

Turning now to the habitual, progressive and future, positive and negative forms, the same kinds of difficulties apply. As with the preterite and perfect forms just discussed no straightforward identification of positive and negative forms is possible since, as before, the form selected is dependent on the presuppositions and intentions

of the speaker. Thus, consider the following sentences:

19. mereko Kumase (I am going to Kumase)

may refer to a future intention:

20. mereko Kumase okyena (I am going to Kumase tomorrow)

or to an action in progress:

21. mereko Kumase seisei aa (I am now going to Kumase)

In the first case the likely negative would be:

22. merenko Kumase (okyena) (I am not going to Kumase tomorrow)

cf. the question and answer sequence with the future:

23. Q: wobeko Kumase okyena (Will you go to Kumase tomorrow?)

A: daabi, merenko (No I am not going).

In the second case the likely negative would be:

24. menko Kumase (I am not going to Kumase).

Consider again a sentence like:

25. ogya no redere (the fire is blazing)

depending on the presuppositions of the speaker we might find as a negative:

26. ogya no rennere (the fire isn't burning (at this moment))

ogyo no nnere (the fire doesn't (won't) burn)

This is another area in which further research is clearly necessary. Here, with Stewart (1963b) and others, I shall adopt the rather straightforward classification implied in the terms given to the various forms in (1)

III.2.2c Connected forms:

We have already noted that there are some constructions where two or more verbs are 'in series' (cf. II.3.1). In such constructions the form of either the first or second (or subsequent) verb may be modified. I shall refer to these forms as the 'connected' forms. The paradigms are as follows:¹

1. Affirmative:

| | | |
|------|------------------|-------------------|
| hab | osó hwé | oká kyeré |
| prog | oresó á'hwé X | oreká ákyeré X |
| fut | obésó á'hwé X | obéká ákyeré X |
| pret | osó hweye | oká kyeréye |
| perf | wasó á'hwé X | waká á'kyeré X |

2. Negative:

| | | |
|------|------------------|--------------------|
| hab | onsó nhwé | onká nkyeré |
| fut | órénsó nhwé | órénká nkyeré |
| pret | wansó ánhwé X | wánká ánkyeré X |
| perf | onsó nhweye X | onká n'kyeréye |

With respect to the Affirmative paradigm (1) we note that for hab and perf neither verb differs from the corresponding simple form. In the preterite the first verb, if it is immediately followed by the second, has no affix, and has a different tone pattern from the simple form. If, on the other hand, an NP intervenes between the two verbs, then each verb retains its simple form:

3a. okó kotóo nsuomnáǎ (He went to buy fish)

okoo dwám kotóo nsuomnáǎ (he went to the market to buy fish)

b. oká kyerée nó sé ... (he told him that ...)

okaa asém bí kyerée no. (He told him something).

1. SO HWE 'test' - lit. 'light, see' - used of lamps etc.
KA KYERÉ 'say, tell etc.'. Cf. III.4 below on complex lexemes.

If the second (or subsequent) verb is progressive or future, then it takes a form where the distinction between prog and fut is neutralised: this form is referred to, after Christaller et al., as the 'consecutive'. The morphs which mark the consecutive are a variable tone prefix $\frac{a}{x}$, and a tone pattern which resembles that of the habitual. Note the distinction between consecutive and perfect, which is overt in the case of disyllabic verbs, but covert with monosyllabic verbs.

With respect to the negative paradigm (2), further neutralisation may be observed, since the form of the consecutive negative does not differ from that of the habitual negative. Thus while the verb has six distinct forms in (1) - including the consecutive - it has only four distinct forms in (2).

Since these alternations are entirely automatic, I shall assume that they are handled entirely within the phonological component (cf. discussion in Schachter and Fromkin, 1968). We do not need to identify further 'underlying' forms to account for such items and we shall consequently take no further account of them.

III.2.2d The ingressive forms:

There are two ingressive forms. They may be related to the verbs KO 'go' and BA 'come'. The ingressive is shown by the infixed morphs -ko-/-ko- and -be-/-be- (depending on the vowel series of the stem). This infix always immediately precedes the verb stem, or the reduplicated stem.

In a simple sentence the ingressive morphs may co-occur with any but the future and continuative ASP morphs:

1. hab okotó bankyé (he goes to buy cassava)
- prog orekotó bankyé (He is going to buy cassava)
- pret okotóo bankyé (he went to buy cassava)
- perf ~~w~~akótó bankyé (he has gone to buy cassava)

and similarly with be. The negative paradigm follows the pattern established in III.2.2b above (note the assimilation be → me):

2. hab ommetó bankyé (he doesn't come to buy cassava)
- fut órémmetó bankye (he isn't coming to buy cassava)
- pret ~~w~~ammetó bankyé (he didn't come to buy cassava)
- perf ~~o~~mmétó bankyé (he hasn't come to buy cassava).

and similarly with ko. It will be noted that ING always has low tone except in the perfect.

Broadly speaking the sense of the ingressive is modal: it often, as the glosses indicate, shows purposive action. The ingressive forms will also be found after the verbs KO and BA when they are found as 'modals'. In this case there are two possibilities: the modal KO/BA may be found in series with an ingressive form:

3. hab okó kotó bankyé (he goes to buy cassava)
- or the nucleus may be embedded with se after the modal:
4. hab okó se okotó bankyé (he goes expressly to buy cassava).

I have tried to indicate in the glosses that the forms in (3) and (4) indicate more emphatic purpose: (4) is more purposive than (3) and (3) than (1). It should also be noted that in constructions like (3,4) we may now find the future ASP morph on the first verb:

- 5a. fut obékó ákótó bankyé (He will go to buy cassava)
 b. fut obékó se orekótó bankyé (He will go
 expressly to buy cassava).

In our brief discussion of modality in Chapter 2 we discussed the syntax of verbs like TUMI etc., and it will not escape attention that the syntax of sentences (3-5) resembles the syntax of verbs like TUMI in certain respects. Furthermore, since the sense of the ingressive forms is modal, it would seem appropriate to treat the ingressive forms in an analogous fashion. Thus we may say that (4) represents, as it were, more of the underlying structure of ingressive forms than the other sentences. In (3) we have had 'nucleus raising' i.e. the deletion of the complementiser se and the embedding of the nucleus after the modal; in such cases the form of the second verb follows the rules already noted for connected forms. In (1) we have a further stage with the deletion of the modal itself, leaving only the embedded ING morph: this operation will block if the modal is in the future form. We shall also assume that prior to nucleus raising and modal deletion a transformation has copied the appropriate modal into the 'main verb' word as the ING morph. The ingressive is thus regarded as transformationally derived, an interpretation in harmony with that offered by Schachter and Fromkin: "the ING prefixes do not occur in deep structures. They are introduced into surface structures by means of transformations" (1968:150). Since we do not deal here with modals, nor, except informally, discuss the syntax of serial sentences, we shall have nothing further to say regarding the ingressive construction.

There are, however, two small points that may be made. Christaller includes in his 'basic' paradigm a form he calls the 'second future': this is identical in form, as he notes, to the progressive ingressive (cp (1)). He justifies this on the grounds that it indicates "action in the next future" (91.7) - i.e. a more proximate future than the simple future. There seems to be no justification for this, since, by the same argument we might then include all the ingressive forms:

6. obetwitwaye (He has just (come and) cut it) might be said to mark a 'proximate past' etc. This leads on to the speculation that possibly the future form itself might be derived as I propose to derive the ING forms: as a 'collapsed' modal. Schachter and Fromkin (1968:132), comment: "It is probable that this morpheme is related to the INgressive prefix /be/ 'come (in order) to' and thus ultimately to the verb /ba/ 'come'. ... In this connection it is suggestive that the future and the ingressive prefixes fail to co-occur: i.e. that there are no future ingressive forms. However, future and ingressive forms are, at least in Akuapen and Asante (and in Kwahu - EKB) tonally distinct ... and this ... seems sufficient grounds for distinguishing the FUT and ING prefixes. (In Fante, the future is identical, both segmentally and tonally, with the habitual ingressive. Thus:

- | | | |
|----------|-------|------------------------------------|
| 7. Fante | obéyé | (He will do it; he comes to do it) |
| Akuapen) | obéyé | (He will do it) |
| Asante) | | |
| (Kwahu)) | obeyé | (He comes to do it)" |

III.2.2e Reduplication:

The reduplicative morph always immediately precedes the verb stem. For an account of the morphophonemics of reduplication cf. Schachter and Fromkin, 1968; Dolphyne, 1965. Whether the verb stem is reduplicated or simple depends on a number of factors, only some of which we examine here, since reduplication is not a major preoccupation of this work.

In some cases the function of reduplication is considered to be 'iterative', in that it indicates whether the action of the verb is performed once or whether it is repeated several times. It will thus be clear that with some verbs reduplication is, at least partially, dependent on the number of some NP in the sentence, either subject or object, and in others may be independent of the number of any NP in the sentence. For example, with the verb FERE 'call' reduplication is independent of the number of subject and object expressions: thus:

1. o-/woferee onipa no/nnipa no (he/they called the
man/men)
o-/woferefereree onipa no/nnipa no (he/they called
the man/men).

On the other hand with GYINA 'stand' the verb can only be reduplicated if the subject is plural, though it may be simple with either singular or plural subject expressions:

2. o-/wogyina ha (he/they is standing here)
wogyinagyina ha (they are standing about here)
*ogyinagyina ha

Finally consider SI 'stand, arrange', where the verb may only be reduplicated if the object is plural:

3. ɔ-/wɔ de nkonnua no/akonnua no resi hɔ (he/they are standing the chairs there)
 ɔ-/wɔde nkonnua no resisi hɔ (he/they are arranging the chairs there)
 * ɔ-/wɔde akonnua no resisi hɔ

In these cases reduplication is not obligatory: in the case of the sentences in (1) the verb may be reduplicated irrespective of the number of subject and object NPs; in (2) the verb may only be reduplicated if the subject is plural; in (3) the verb may only be reduplicated if the object is plural. The choice of a simple or reduplicated stem depends on the 'cognitive content' of the proposition: a 'generative semantic' solution seems attractive here.

It will not however solve all descriptive problems connected with reduplication: there are a few verbs which do not reduplicate at all (e.g. wɔ 'be in a place'; yɛ 'be, do, make'; nɛ 'be identical with' dɛ 'take, grasp, have'), and a few that appear to be reduplicated, but have no simple form at all (e.g. nwiinwii 'grumble', konkon 'hover, hang'). There are also a number of verbs where the reduplicated form should perhaps be considered to be an entirely separate lexeme from the simple form, since its grammar and semantics are not derivable in any straightforward fashion from the simple form:

- | | |
|------------------|---------------------|
| 4. hwe (look at) | hwehwe (search for) |
| te (pinch) | tete (scratch) |
| ka (touch) | keka (grope) |
| hyɛ (put on) | hyehyɛ (arrange) |
| kyɛ (catch) | kyekye (bind) |

It may be that diachronically these forms are related: synchronically the derivation is harder to motivate. Various

examples of reduplication of this type will appear as we proceed, ^{and} ~~as~~ these are discussed as they occur.

Finally note that with some verbs there is a connection between reduplication and transitivity:

- 5a. odidiye (He was at table, he ate)
 odii ne awiaduane (He ate his dinner)
 odiye (He ate it NOT he was at table)
 ?odidii ne awiaduane (He ate and ate his dinner)
- b. okyerewkyerew (He is writing)
 okyerew nwoma bi (He is writing a letter)

Such examples are discussed in more detail in Chapter 4 below.

It will be clear from these examples that reduplication is far from being a 'purely' grammatical category: indeed it is difficult to see how it could be treated entirely with the syntax. On the other hand it is equally clear that the processes of reduplication can be handled purely formally, once the grammar has the information that a given stem is to be reduplicated.

I shall consider that on lexicalisation a given stem is marked with a feature (red) that will control the process. This feature may be an 'inherent' feature of a given stem - as in the examples noted in (4); or it may be one that is acquired through a semantic operation before lexicalisation (as in (1)).

III.2.2f Subjunctive forms.

In certain constructions, notably when a sentence is embedded as a relative clause, the verb may undergo tonal, and in some cases segmental, modifications. These modifications are referred to a morpheme SUB which, in the 'canonical

form' is considered to follow the verb stem. These forms are called the subjunctive forms. Subjunctive tone patterns, etc., may be superfixed to any of the verb forms thus far discussed, simple or complex. I shall only illustrate the subjunctive forms appropriate to the indicative affirmative paradigm. The reader is invited to compare the forms below with those in III.2.2a:¹

- 1 continuative: ekyé áa Kofí hyé nó (the hat Kofi is wearing)
ntomá áa Kofí furá nó (the cloth Kofi is wearing)
- 2 habitual: ekyé áa Kofí de hyé nó (the hat Kofi wears)
ntomá áa Kofí de fúrá nó (the cloth Kofi wears)
- 3 progressive: ekyé áa Kofí de réhyé nó (the hat Kofi is putting on)
ntomá áa Kofí de réfúrá nó (the cloth Kofi is putting on)
- 4 future: ekyé áa Kofí de béhyé nó (the hat Kofi will put on)
ntomá áa Kofí de bé'fúrá nó (the cloth Kofi will put on)
- 5 preterite: ekyé áa Kofí de hyéyé nó (the hat Kofi put on)
ntomá áa Kofí de fúráyé nó (the cloth Kofi put on)
- 6 perfect: ekyé áa Kofí de áhyé nó (the hat Kofi has put on)
ntomá áa Kofí de áfúrá nó (the cloth Kofi has put on)

Under certain circumstances, mainly phonologically conditioned, an additional segment may be added to the final

1. We have already noted that the analysis of the relative clause is ekye (rel Kofi hye ekye no) no 'that (rel Kofi is wearing the hat) the'. HYE undergoes object pronoun deletion, yielding aa Kofi hye 'which Kofi is wearing'. The forms in 2-6 involving the 'agentive auxiliary' de are discussed in Chapter VI, where the syntax of verbs like HYE, FURA is discussed in greater detail.

element in the subjunctive sentence. Schachter and Fromkin, 1968, discuss the distribution of these final segments:

for some examples, consider:

- 7¹a. aduane aa Kofi redie no (the food Kofi is eating)
- b. abɔfora aa ɔreseresere no (the boy who is laughing)
- c. enam aa ɔkeraman no awe no (the food the dog has eaten)
- d. Kofi na ɔreko Kumase (It is Kofi who is going to Kumase)

We shall not be much concerned with the distribution of subjunctive forms; it is, however, important to recognise their form and syntax since the fact that a verb is or is not in the subjunctive may be important in the analysis of some construction. I shall assume that the morpheme SUB is added transformationally to those verb nodes to which it applies: i.e. that SUB is not a 'choice' to be made in the underlying syntax of any given sentence. This being the case we shall not consider it further here. But cf. Schachter and Fromkin (1968:207).

III.2.2g. Verb forms with bound subject pronouns.

The categories of the pronoun are dealt with in Chapter 2. If the subject of the verb is a pronoun it will be prefixed to the verb word as the initial morph. Con-junctive forms of pronouns differ in some cases from dis-junctive forms (cf. Chapter 2). As the initial morph in a

1. The first three sentences involve relative clauses, like those in (1-6) above: the last sentence is a 'cleft sentence' - this is analysed as containing an embedded relative clause. With the second sentence in (7) note the difference between the form given and abɔfora aa ɔreseresere no (no) 'the boy who he is laughing at'.

verb word the pronoun is subject to vowel harmony and assimilatory processes operating within the verb word. The following paradigms are illustrative of the forms of the pronoun and its tone in simple indicative forms:

| | | |
|--------------|------|----------------|
| 1. habitual: | mekó | (I go) |
| | wókó | (you (sg) go) |
| | okó | (he goes) |
| | yekó | (we go) |
| | mókó | (you (pl.) go) |
| | wokó | (they go) |

| | | |
|------------|--------|----------------|
| 2. future: | mékó | (I will go) |
| | wóbékó | (you will go) |
| | obékó | (he will go) |
| | yebékó | (we will go) |
| | móbékó | (you will go) |
| | wobékó | (they will go) |

(Note the assimilation in the first person: me + bé → mé)

| | | |
|-------------|--------|-------------------|
| 3. perfect: | makó | (I have gone) |
| | wóá'kó | (you have gone) |
| | wakó | (He has gone) |
| | yeakó | (we have gone) |
| | móá'kó | (you have gone) |
| | woakó | (they have gone). |

The tone patterns shown are typical of tone patterns generally in the indicative forms. Note, however the future negative forms:

| | | |
|---------------------|---------|---------------------|
| 4. future negative: | mérénkó | (I will not go) |
| | wórénkó | (you will not go) |
| | órénkó | (he will not go) |
| | yérénkó | (we will not go) |
| | mórénkó | (you will not go) |
| | wórénkó | (they will not go). |

And the subjunctive forms:

5. Á'dén tí na ókó (Why does he go?)
 " " órékó (Why is he going?)
 " " obékó (Why will he go?)
 " " wákó (Why has he gone?)
 " " okóyé (Why did he go?).

These tonal and other alternations are automatic in the paradigms noted: it is assumed that they are dealt with in the phonological and morpho-syntactic components and are not further considered here.

From the paradigms that have been considered in previous sections it will be clear that there is no concordial prefix on the verb if the subject is a noun:

6. Kofi reko (Kofi is going)

and not:

7. *Kofi oreko.

In some dialects of Akan, while there is no concordial prefix on the verb its tonal behaviour has led some analysts to postulate a deleted prefix. Schachter and Fromkin, 1968, for example, postulate a subject concord prefix as an obligatory constituent of the verb word. Their work, however, is a phonology of several dialects of Akan, including some which show tonal behaviour which suggests a deleted subject pronoun. Kwahu does not show such behaviour, and I do not, consequently, postulate an obligatory concordial subject prefix: I regard the subject prefix as being affixed to the verb word by a later rule if it is a pronoun (derived either from the base or by transformation)

III.2.2h Aspect markers outside the verb word.

It will be recalled that we have used 'aspect' as a conventional cover term to apply to certain kinds of alternation in the form of the verb word without prejudice to the fact that ASP morphs may have temporal and modal implications in addition to, or instead of, aspectual implications. Nor are temporal modal and aspectual meanings confined to bound ASP morphs. The only such item with which we are concerned is the particle ná. (For a discussion of other items cf. Boadi, 1966; Christaller Gr. 141).

ná may co-occur with the verb in the continuative, habitual progressive and perfect forms: it does not co-occur with the preterite or future. ná is generally initial in its sentence, but follows conjunctions and the relative marker. It will be observed that those verb forms with which ná co-occurs may be considered to be 'present' verb forms (the sense in which this is the case will be discussed in III.3 below), and the sense of ná is to remove the verb from its present time reference. For example:

- 1a. Kofí hye ekyé (Kofi is wearing a hat)
- b. ná Kofí hye ekyé (Kofi was wearing a hat)
- 2a. Kofí hyé ekyé (Kofi wears a hat)
- b. ná Kofí hyé ekyé (Kofi used to wear a hat)

In the sentences (1) the verb is in the continuative; in (2) in the habitual. The sentences with ná indicate a past state or a past habit. We may thus compare the sentences:

- 3a. ná Kofí hye ekyé (Kofi was wearing a hat)

b. Kofí hyee ekyé (Kofi put on a hat)

where in the (a) sentence a past state is described, and in the (b) sentence a past action: as we shall see in III.3. the distinction is not always quite so clear cut, but in principle the distinction between the preterite and ná + continuative etc. must be drawn.

In appropriate environments ná with the progressive and perfect may have either past or future reference:

4. mereko Kumase seisei (I am now going to Kumase)

ná mereko Kumase okyena (I will be going to Kumase tomorrow)

ná mereko Kumase nnera (I was going to Kumase yesterday)

5. obedu no na ná mako Kumase (When he arrives I will have gone to Kumase)

oduruye no na ná mako Kumase (When he arrived I had gone to Kumase).

Time reference by adverbial is not obligatory, and is often clear from the context.

III.2.3 The Optative forms

Some aspects of the distribution of the optative and imperative forms ^{have} ~~has~~ been briefly discussed in Chapter 2.

The optative morph is, generally, a homorganic nasal which fills the same 'slot' as, and is in opposition to, the other ASP morphs discussed in III.2.2. Like them it co-occurs with NEG (2); ING (3); RED (4) and SUB (5) morphs:

1. osé Kofí nhyé ekyé¹ (He says Kofi is to wear a hat)

-
1. It will be noted that the optative morph assimilates in tone to the previous tone bearing unit: it will also be noted, however, that this assimilation does not, in the case of the optative morph lead to downstep in the verb word (cf. discussion of, say, the perfect in III.2.2a).

- osé Asare mfúrá ntomá (He says Kofi is to wear cloth)
2. osé Kofí nnhyé ékyé¹ (He says Kofi is not to wear a hat)
- osé Asare mmfurá ntomá (He says Asare is not to wear cloth)
3. osé Kofí ñkotó bankyé² (He says Kofi is to go and buy cassava)
4. osé wode nkonnúá nó ñsísí hó (He says they are to arrange the chairs there)
5. Á'dén tí na óńkó? (Why hasn't he gone?)

The optative may also co-occur with subject pronouns, except that the second person singular is not marked with a bound pronoun, or with a bound ASP marker:

6. osé ménkó (He says I am to go)
 ko (He says you are to go)
 ónkó (He says he is to go)
 yéńkó (He says we are to go)
 móńkó (He says you(pl.) are to go)
 wónkó (He says they are to go).

-
1. I have followed the orthography in representing the negative optative as nnhyé etc. with a negative as well as an optative morph. In fact the phonetic realisation of the optative negative and the habitual negative is identical [nhyé] etc. Therefore the phonetic representation of the sentences in 2 would not be distinguishable from a representation of the 'same' sentences where the verb is habitual negative: i.e. [osékofínhyékyé] is ambiguous as between an interpretation 'he says Kofi is not to wear a hat' and 'he says Kofi doesn't wear a hat'. There are other ways of making the ambiguity clear - ose se ese se Kofinhye ékye 'he says that it is necessary that Kofi should not wear a hat' etc. I shall, however, in the representations in this work continue to follow the orthography in distinguishing between the negative optative and the negative habitual. (cf. Schachter and Fromkin, 1968:134).
2. As a consequence of the orthographic decision taken in note 1 above, negative ingressive optative sentences may have a series of three orthographic nasal consonants: this does not, as we have noted, indicate a 'very long' nasal in the pronunciation. Thus: ose Kofi mmmetó bankye 'he says Kofi is not to come and buy cassava'.

The tonal patterns of the pronouns may be compared with that of the indicative forms in II.2.2g.

We have already noted that in simple imperative sentences of the kind discussed in Chapter 2, the following forms are used:

7. *ko* ! (Go !)
- mónkó* ! (Go ! (plural))

It will be noted that these forms do not differ from the corresponding form in the paradigm in (6) above. The connected forms should also be noted:

- 8a. *so* ! (light it !)
- b. *hwe* ! (look at it !)
- c. *só hwe* ! (test it)
- d. *fa* ! (take it !)
- e. *berá* ! (come !)
- f. *fa béra* ! (bring it !)

Schachter and Fromkin propose to derive the second person optative forms by the deletion of the second person pronoun subject, and the replacement of the aspectual marker opt by the derived marker imp. The marker imp has no segmental realisation, but it does have implications for the tonal superfix of the verb stem.

III.3. The distribution of the verb forms.

III.3.1. Introduction

In III.2 we noted that the maximal paradigm for the indicative verb, the affirmative indicative paradigm, distinguishes six verb forms: the continuative, habitual, progressive, preterite, perfect and future. We have also noted that the distinction between certain of these forms is

neutralised in other paradigms, notably the negative and connected forms, and that this neutralisation is regular and predictable and, pace Schachter and Fromkin, can be accounted for in terms of low level transformations or by purely phonological rules.

There is, however, another distributional problem that we have so far only hinted at, and that is considered to be a central matter for this description since it involves the notion of transitivity. This is the fact that not all verbal lexemes have the full range of forms. In particular, there are relatively few verbs that may appear in the continuative form, and a relatively large number that can appear in all forms but the continuative. This is not, however the only restriction. There are some verbs that characteristically do not appear in either the continuative or progressive, and a few that characteristically do not appear in the progressive, but may be found in the other verb forms, including the continuative. Clearly it would be possible to classify lexemes in terms of the verbal forms in which they may appear, but such a straightforward classification obscures important generalisations about the language as a whole. I propose to attempt to account for the types of restriction noted by relating the range of verb forms open to a given lexeme to the range of transitivity frames which it may enter. Thus verb forms are related to transitivity frames rather than to specific lexemes. Thus I shall propose that a verb with a 'defective' paradigm is defective only insofar as its distribution is limited to a certain range of transitivity frames, or perhaps to just a single

frame. Conversely, those verbs with a full paradigm have this by virtue of the fact that they may appear in a complementary or overlapping set of transitivity frames. There is no single frame which admits the whole range of verb forms.

The discussion centres largely round the systems of aspect and process introduced in Chapter II.3 above.

III.3.2 Verb forms and process classes: active sentences

In this and the following section we examine the co-occurrence restrictions between verb forms and process class in active and stative sentences. Here we are only concerned with the different verb forms available to a given verbal lexeme in a particular process class, other details of the syntax of the different types of verb examined are discussed in following chapters. It should be remarked that the notes on the 'meaning and use' of particular verb forms are expressed in somewhat general terms, since, as we have noted before, the prime interest in this work is the syntax rather than the semantics of the language.

III.3.2a Action verbs

Action verbs in active sentences may appear in any of the forms in the affirmative indicative paradigm with the exception of the continuative.

The habitual form is generally used to describe habitual actions or general truths:

- 1a. okyeame bi kasa ma ne hene (linguist a (hab)+speak
(hab)+'give' his chief: A linguist speaks
on behalf of his chief)

- b. akokanini bon anopa biara (cock (hab)+crow morning every: The cock crows every morning)
- c. ogya dere (fire (hab)+burn: Fire burns)
- d. nsuo huru gya so (water (hab)+boil fire top: Water ^{boils} burns on a fire)
- e. yesa ha (we+(hab)+dance here: one dances here, dancing goes on here)

In construction with na we have a past habitual:

- 2a. na yesa ha (past we+(hab)+dance here: We used to dance here)
- b. na mekan nwoma bebre (past I+(hab)+read books many: I used to read many books)

Actions etc. actually in the progress of performance at the time of utterance are generally described with the progressive:

- 3a. okyeame no rekasa (linguist the prog+speak: The linguist is speaking)
- b. ogya no redere (fire the prog+blaze: The fire is blazing)
- c. frankaa no rehim (flag the prog+fly: The flag is flying)
- d. orekan nwoma bi (he+prog+read book a: He is reading a book)

This use of the progressive is particularly to be noticed with respect to the intransitive sentences shown in (3b,c) above.

The preterite describes an action "performed and finished in the past" (Chr:169):

- 4a. nsuo no huruy (water the boil+pret: The water boiled)
- b. okyeame no kasay (linguist the speak+pret: the linguist spoke)

The perfect generally "expresses an action performed and completed in past time, but continuing in its results or effects in the time present to the speaker" (Chr:171):

- 5a. wakasa (you+perf+speak: You have spoken)
- b. makan nwoma yi (I+perf+read book this: I have read this book!)

Since the use of ~~in~~ the perfect will be important when we come to consider other process classes of verb, let us note that the perfect does not generally refer to a "present state with reference to a previously completed action" (Chr:171), except, perhaps, in some extended sense of 'state', according to which such continuing processes as those described in (3) might be regarded as 'states'. Thus, note with particular reference to the N_p intransitives in (3) that the perfect may refer to a 'previously completed action' that leads to an 'ongoing state of affairs':

- 6a. ogya no adere na eda so redere (DA SO 'continue':
fire the perf+blaze and it+(cont)+continue
blaze: The fire has blazed up and is still
blazing)
- b. oseram no ahiren na eda so rehyiren (moon the perf+
shine and it+(cont)+continue prog+shine: The
moon has ~~shone~~ out (say from behind a cloud) and
it is still shining)
- c. nsuo no amuna na eda so remuna (water the perf+
threaten and it+(cont)+continue prog+threaten:
Rain threatens (i.e. the clouds have gathered, it
is overcast) and it is still threatening)
- d. nsuo no ahuru na eda so rehuru (water the perf+boil
and it+(cont)+continue prog+boil: The water has
boiled and still is boiling).

We may note, as was remarked at the beginning of this subsection, that there is no continuative forms with any of these verbs:¹

- 7. *okyeame no kàsà
- *frankaa no hìm
- *nsuo no hùrù

1. The case of the 'low tone habitual' with verbs like DERE has been discussed in III.2.2a.

III.3.2b Descriptive verbs

Descriptive verbs in active sentences may appear in any of the forms in the affirmative indicative paradigm with the exception of the continuative and progressive. There are, unfortunately, only a small number of lexemes that appear in only a single transitivity frame as descriptive verbs. Most lexemes that may appear as descriptive verbs may also appear in some other frame as inchoative verbs etc. The problems that this presents will be evident from the discussion.

With descriptive verbs the habitual form is used to describe both general truths etc.:¹

- 1a. sika béré (gold (hab)+red: gold is red)
- b. dwete hoá (silver (hab)+white: silver is white)
- c. mesuró nnyinamoa (I+(hab)+fear cats: I am afraid of cats)

and to describe present states of affairs:

- 2a. sika yi béré (gold this (hab)+red: this gold is red)
- b. me ba no yaré (my child the (hab)+ill: my child is ill)
- c. efun no bání (corpse the (hab)+smell: the corpse smells)
- d. aduro yi mmírí beeree (ink this (hab)+neg+black enough: this ink isn't black enough).

They are not used in the progressive. Thus, with those few verbs that fall into this class alone, simple sentences where the verb is in the progressive form do not occur:²

1. It is interesting to observe that Christaller in his section discussing "verbs used in the continuative form" (102) remarks that "some dissyllabic verbs denoting quality have the tone of the present tense" (102.4). Some of the items he lists are some of the items noted here. It may be observed that of the items in his 102.4, the stative verbs he notes SO, SUA are my stative descriptives; while the "dissyllabic verbs ... (which have the tone of the present tense" are my descriptive active verbs.
2. This statement is perhaps too strong. It is interesting to record my informants reaction to the sentences noted.

[Contd.]

3. efun no bon (the corpse smells)

* efun no rebon

mesuro wo gyinamoa no (I am afraid of your cat)

* meresuro wo gyinamoa no

atadee yi biri (this dress is black)

* atadee yi rebiri

It has already been noted that many lexemes may be used in more than one process class, and some of the lexemes in (1,2) are grammatical in the progressive, providing they are not interpreted as being descriptive verbs. Thus, for instance, note:

4a. me ba no yare (my child the (hab)+ill: My child is ill - desc)

me ba no reyare (my child the prog+ill: My child is falling ill - inch NOT my child is ill)

b. sika no bere (gold the (hab)+red: The gold is red)

kookoo no rebere (cocoa the prog+red: The cocoa is ripening - inch NOT the cocoa is red)

c. dwete no hoa (silver the (hab)+white: The silver is white - desc)

aburoo no rehoa (corn the (prog)+white: The corn is ripening (i.e. whitening) - inch NOT the corn is white, ripe).

Contd.] atadee yi rebiri is considered to be quite unacceptable. meresuro wo gyinamoa no is interpretable as 'I am becoming frightened of your cat' - i.e. is interpreted as though SURO were, in this instance, being used as an inchoative verb (cf. 3.3c below). Similarly efun no rebon is interpreted as inchoative. A further example is predo me which is interpreted as 'she is falling in love with me'. Of the latter example it was remarked that it was peculiar; if it meant anything it would be as glossed, and my informant would not herself 'put that meaning into those words'. There are two points at issue here. The first is that the forms in the progressive do not have a descriptive sense - which tends to support the analysis offered in this section. The second is that, as we have remarked on several other occasions, and will have cause to remark again, that a given verbal lexeme may be used in a number of transitivity frames, that the interpretation of a given sentence depends on the transitivity frame involved and that many lexemes occur in a number of frames.

d. aberewa no popo (old-woman the (hab)+shake: The old woman has the shakes - i.e. she shakes (as a medical condition) - desc)

aberante: no repopo (young-man the prog+shake: The young man is shivering - act NOT the young man has the shakes)

In some of the cases noted in (4) the verb characteristically has somewhat different selectional restrictions as a descriptive and as an inchoative or action verb: as, for instance, BERE (already discussed briefly in II.4.5) and HOA - and some of these restrictions come out again in discussing inchoative verbs in the following sub-section. In other cases the selectional restrictions can hardly be formulated except in terms of the kinds of action etc. that the speaker wishes to describe. Thus, for example, with the sentences in (4d), there is no reason at all why a young man should not 'have the shakes' (aberante: no popo (not repopo)) nor why an old woman should not shiver (aberewa no repopo (not popo)).

The perfect of descriptive verbs, like that of active verbs, describes past actions (or in this case perhaps states of affairs might be a better description) with present results:

5a. mayare paa nti, maye mmere (I+pref+be-ill properly because, I+perf+become weak: Because I have been ill, I am weak)

b. mayare paa, na meda so yare (I+perf+be-ill properly, and I+(cont)continue (hab)be-ill: I have been ill, and still am)

Thus compare the acceptable:

6. meyaree afrase (I+be-ill+pret last-year: I was ill last year - pret)

with the anomalous:

7. *mayare afrase (*I have been ill last year)

It might be asked why such verbs are not described as 'stative' verbs. The reason for this will become clearer as

the description proceeds. Note, however, that we might wish to call them stative verbs with a 'high tone continuative' (in contrast to verbs like *DERE* noted in the last subsection with a 'low tone habitual') (cf. the tone markings on the sentences (1,2)): such a classification appears to be suggested by the remarks of Christaller quoted in the note to sentence (1) above. I classify them as active verbs on the grounds that they have more in common with other active verbs (except the restriction on the progressive) ^athan they do with statives. Thus *ná* and the habitual represents a 'past habitual' - cf. III.3.2a (1):

- 8a. *ná wira no bon* (past bush the (hab)+smell (The bush used to smell)
 b. *bere aa ná osua no, ná oyare* (time relative past he+(cont)+be-small, past he+(hab)be-ill: When he was small he used to be sick)

In the preterite such verbs describe past states of affairs:

- 9a. *wira no bonye* (bush the smell+pret: The bush smelt)
 b. *meyaree afrase* (I was ill last year).

It must however be admitted that the distinction is not at all precise here, and chiefly I rely on the formal 'scatter' of the items in question, particularly the fact that stative verbs do not appear in the preterite - there is no form, for instance *osuaye.

III.3.2c Inchoative verbs

In active sentences inchoative verbs may appear in any of the forms in the affirmative indicative paradigm with the exception of the continuative.

As with action verbs, the habitual is used to describe general truths etc.:

- 1a. owia no pue da biara (sun the (hab)+appear day every:
The sun comes up every day)
b. nnipa wu (men (hab)+die: Men die)

The progressive describes a changing state:

- 2a. owia no reto (sun the prog+'fall': The sun is setting)
b. Kofi rewu (Kofi prog+die: Kofi is dying)
c. nkwan no repi (soup the prog+thicken: The soup is
getting thicker)
d. nsuo no regyae (water the prog+stop: The rain is
stopping)

The perfect presents us with some difficulties since it is capable of two interpretations: an 'active interpretation', similar in certain respects to the perfects we have already noted, and a 'resultant state' interpretation:

- 3a. owia no apue (sun the perf+appear: The sun has risen/
is up)
b. Kofi awu (Kofi perf+die: Kofi has died/is dead)
c. nsuo no adwo (water the perf+cold: The water has got
cold/is cold).

The distinction between these two perfects is far from easy to draw in either syntactic or notional terms, even in nuclear instances. As Jespersen points out: "the perfect ... besides the purely temporal element ... contains an element of result. It is present, but a permansive present: it represents the present state as the outcome of past events, and may therefore be called a retrospective variety of the present. ... It appears difficult to keep up the sharp distinction between the idea of the present result of past events and that of the past events themselves" (1924:269-70).

It is, however, worth attempting to draw out the distinction a little more fully. Since there is no morphological distinction the only way that we can do this is by attempting to show the parallelism, in appropriate environments,

between verbs in the 'state perfect' and synonymous expressions where the verb is morphologically in the continuative form (which for our purposes we may regard as the unambiguously 'stative' form - and which we discuss more fully in III.3.3.).

There are a few verbs which have an adjective or nominalisation co-relative to the verb. Thus ANI FURA 'go blind' (inchoative)¹; ONIFURAENI 'Blind man'. Now consider the following sentences:

- 4a. Kofi ani refura (Kofi eyes prog+blind:Kofi is going blind)
- b. Kofi ani afura (Kofi eyes perf+blind: Kofi has gone blind/Kofi is blind)
- c. Kofi ye onifuraeni (Kofi (cont)+be blind-man: Kofi is a blind man)

The (a,b) sentences contain an inchoative verb or verbal phrase: the verb in (a) is in the progressive and in (b) in the perfect where it may be understood either in the 'state perfect' sense (is blind) or the 'active perfect' sense (has gone blind). In the state perfect sense (b) may be synonymous with (c) which contains the copula ye in the continuative form.²

1. For our purposes we may regard ANI FURA as a complex lexeme (cf. III.4 below). This fact is not, however, relevant to the present discussion.

2. A further complication may be introduced by noting that in fact, the (c) sentences may themselves contain an 'inchoative' copula NYIN 'become':

Kofi renyin onifuraeni

Here, as with the (b) sentence the perfect will yield two possible senses. Nor is this the end of the complexities since ye may itself be used as an inchoative:

Kofi aye onifuraeni

which is then once more ambiguous. These complications need not however concern us here, since it must be understood that we are dealing here with the stative copula ye, as glossed.

We have already noted that there are co-occurrence restrictions between stative sentences and some types of manner adverbial. Thus, we will find:

5. Kofi ani refura ntem (Kofi eyes prog+blind quickly:
Kofi is going blind quickly)

corresponding to (4a), the active inchoative, but not:

6. *Kofi ye onifuraeni ntem

corresponding to (4c), the stative descriptive. On the other hand we will find manner adverbs like ntem in sentences like (4b), providing they are understood in their active sense:

7. Kofi ani afura ntem (Kofi eyes perf+blind quickly: Kofi
has gone blind quickly NOT *Kofi is blind quickly).

In order to substantiate this we will have to find environments where we can substitute some, but not all of the sentences (4).

So consider:¹

8. m'adamfo aa $\left\{ \begin{array}{l} n'ani \text{ afura} \\ oye \text{ onifuraeni} \\ n'ani \text{ refura} \end{array} \right\}$ to Nkran

(my friend who $\left\{ \begin{array}{l} \text{is/has gone blind} \\ \text{is a blind man} \\ \text{is going blind} \end{array} \right\}$ lives in Accra)

In this sentence all the forms are possible. But in the following:

9. m'adamfo aa $\left\{ \begin{array}{l} n'ani \text{ afura} \\ oye \text{ onifuraeni} \\ n'ani \text{ refura} \end{array} \right\}$ ntem te Nkran

(my friend who $\left\{ \begin{array}{l} \text{has gone (*is) blind} \\ \text{is a blind man} \\ \text{is going blind} \end{array} \right\}$ lives in Accra)

Here only the forms with an 'active' interpretation are possible.

1. The following notes are offered as a 'morpheme-by-morpheme' gloss for various constituents of (8-14):

m'adamfo (my'friend); aa (relative marker); n'ani afura (his'eyes perf+blind); oye onifuraeni (he+(cont)+be blind-man); n'ani refura (his'eyes prog+blind); te Nkran ((cont)+live Accra); ntem (quickly); bere aa ote m'akuraa no (time relative he+(cont)+live my'village the; akotena Nkran (perf+ingressive+live Accra); nkakerankakera (gradually); nansen yi ara (recently); seisei (now).

The same point may be illustrated in the following sentences:

10. m'adamfo bi aa $\left\{ \begin{array}{l} n'ani \text{ afura} \\ *oye \text{ onifuraeni} \\ n'ani \text{ refura} \end{array} \right\}$ bere aa ste m'akuraa no
 akotena Nkran (A friend who has gone (*is) blind/*is
 blind/is going blind while living in my village has
 gone to live in Accra).

Or, again, consider the following sentences:

11. nkakerankakera Kofi $\left\{ \begin{array}{l} ani \text{ afura} \\ ani \text{ refura} \end{array} \right\}$ (Kofi $\left\{ \begin{array}{l} \text{has} \\ \text{is} \end{array} \right\}$ gradually
 $\left\{ \begin{array}{l} \text{gone} \\ \text{going} \end{array} \right\}$ blind)

but not:

12. *nkakerankakera Kofi ye onifuraeni (*Kofi is gradually
 blind).

Or again:

13. $\left\{ \begin{array}{l} n'ani \text{ afura} \\ *oye \text{ onifurani} \end{array} \right\}$ nansen yi ara (He has recently gone
 blind *He is a blind man recently)
14. $\left\{ \begin{array}{l} n'ani \text{ afura} \\ oye \text{ onifuraeni} \end{array} \right\}$ seisei (He is now blind).

Syntactically, therefore, we may say that the state perfect operates like a stative form, while the active perfect operates like an active form. Let us now return to examine the question of whether the forms in the state perfect and the corresponding forms in the stative are synonymous. The answer clearly seems to be no. This may be shown with sentences like:

- 15a. oye onifuraeni (He is (a) blind (man))
 b. n'ani afura (He is blind)

The (a) sentence, but hardly the (b) might refer to someone who has been blind from birth, since the (b) sentence, although it describes a state, describes it as the result of previous ongoing condition. Many similar examples may be quoted, and here, as with other examples considered in this

chapter, we must keep in mind the intention behind the sentence:

16a. oboo yi ye torotoro (stone this (cont)+be smooth:
This stone is smooth)

b. akuma yi ano atoro (axe this mouth perf+blunt: This
axe is blunt)

illustrates the pairing of an inchoative verb and adjective:
In the following sentences we have a descriptive verb (in the
(a) sentence), with the restrictions appropriate to
descriptive verbs, and an inchoative verb in the (b,c)
sentences:

17a. nsuo no dwo (water the (cont)+cool: the water is cool)

b. nsuo no redwo (water the prog+cool: The water is
cooling)

c. nsuo no adwo (water the perf+cool: The water is cold =
is no longer hot)

a. nsuo no gyen (the water is clear)

b. nsuo no regyen (the water is clearing)

c. nsuo no agyen (the water is clear = is no longer
muddy etc.)

a. kookoo no bere (the cocoa is red)

b. kookoo no rebere (the cocoa is getting ripe)

c. kookoo no abere (the cocoa is ripe = has finished
ripening)

There are circumstances, as we have noted in the previous
section where, characteristically, there are different
selectional restrictions between the descriptive and the
inchoative verb:

18a. dwete no hoa (silver the (hab)+white: Silver is white)

b. aburoo no ahoa (corn the perf+white: The corn is ripe =
has whitened)

a. ekye yi ho do (hat this exterior (cont)+brown: This
hat is brown)

b. aburoo yi ado (corn this perf+brown: This corn is
roasted = has become brown)

and, to adduce an example of Christaller's:

19a. ne ho atew (his self perf+holy: He is (=has become) holy, said of a sinner)

b. Onyankopon ho tew (God self (cont)+holy: God is holy (he never having been otherwise)).

~~Further examples of such distinctions are found in~~

~~Chapter IV, especially the examples quoted in~~

Finally, since it illustrates a parallelism with examples quoted in III.3.2a (6) ~~and III.3.2b (10)~~ we may note the ungrammaticality of sentences like:

20. *owia no apue na eda so repue (the sun has come out/
is out, and it is still coming out)

*nsuo no agyae na eda so regyae (the rain has stopped
and is still stopping)

whether they are understood in the state perfect or active perfect sense.

Before we discuss how to handle this situation, let us turn to discuss verb forms and process classes in stative sentences.

III.3.3 Verb forms and process classes - Stative sentences

Once again we examine the three process classes in turn, directing our attention primarily to the forms open to the verb in a given transitivity frame: other details of the verbs concerned will be found in the appropriate chapters below.

III.3.3a. Action verbs

Consider the following pairs of sentences:

1a. kanea no si opono no so (lamp the (cont)+stand table
the on: The lamp stands on the table)

b. Kofi de kanea no sii opono no so (Kofi take lamp the
stand+pret table the on: Kofi stood the lamp on
the table)

- a. ntoma no sam akonnua no akyi (cloth the (cont)+drape
chair the back: the cloth is draped over the
back of the chair)
- b. Amma de ntoma no samm akonnua no akyi (Amma take
cloth the drape+pret chair the back: Amma
draped the cloth over the back of the chair).

(These sentences have been discussed in a preliminary way in Chapter II; they are more fully discussed in Chapter V below).

In the (b) frame the verb may be in any of the active verb forms, i.e. in any form with the exception of the continuative:

2. *Kofi de kanea no si opono no so.

In this respect it may be classed as an active action verb, cf. III.3.²a above. In the (a) frame the verb is characteristically found in the continuative, as illustrated; however it may also appear in some of the other verb forms. Thus it may appear in the future, perfect or preterite, though it usually only does so when there is also adverbial modification in the sentence:

3. kanea no besi opono no so akye (lamp the fut+stand
table the on consec+last: The lamp will be
standing on the table for a long time)
- kanea no asi opono no so akye (lamp the perf+stand
table the on perf+last: The lamp has been
standing on the table for a long time).

The verb will not, however, appear in the progressive or habitual:

- 4a. *kanea no resi opono no so
*kanea no si opono no so.

To account for this distribution of tense/aspect markers I shall suppose that frames like those underlying (1a) are considered to be stative frames, and those underlying (1b) active frames. Further, in order to account for the fact that the stative frame will accept verbs in

forms other than the continuative I shall consider that the process class of verbs like SI is 'action' - it will, of course, be understood that 'action' verbs in stative sentences do not necessarily describe actions.

III.3.3b Descriptive verbs

In contrast to stative action verbs, stative descriptive verbs characteristically only appear in the continuative form. Thus, for instance, consider the verbs in sentences like:

- 1a. Kofi so (Kofi (cont)+fat: Kofi is fat)
- b. Kofi sua (Kofi (cont)+small: Kofi is small)
- c. me ba no ye (my child the (cont)+be-good: My child is good)
- d. ɔte Twii (he+(cont)+understand Twi: He understands Twii)
- e. onim adee (he+(cont)+know thing: He is knowledgeable)

These verbs will not appear in the characteristically active forms - the progressive and habitual:¹

- 2a. *Kofi reso
- b. *ɔrete Twii
- c. *Kofi resua

1. It is of interest to note that some verbal lexemes that do not characteristically appear in the progressive are nevertheless marginally acceptable in the progressive provided they are understood appropriately. The sentences (2) however are apparently quite unacceptable. In this respect compare III.3.2b on the interpretation of sentences like ɔresuro no, ɔredo me etc. It is interesting to note that verbs like SURO and DO (cf. examples below) are active descriptive verbs, whereas the verbs noted in (1) above are stative descriptive verbs. It may be that an active descriptive verb is more susceptible to an interpretation appropriate to an active inchoative verb 'he is beginning to fear me', 'he is falling in love with me' etc. than a stative descriptive verb.

An inchoative sense for some of the above sentences would have to be made with the corresponding adjective, and an inchoative copula: Kofi renyin kesee 'Kofi is getting fat' etc., or would be implied by some such periphrasis as ɔresua Twii 'he is learning Twi'.

Nor do they appear in the other verb forms:

- 3a. *Kofi anim adee
- b. *Kofi beso¹
- c. *Kofi suaye

With respect to (3c), we may note that a 'past' stative is characteristically formed with ná and the continuative:

- 4. ná Kofi sua (past Kofi (cont)+small: Kofi was small)

I shall describe such verbs as 'descriptive verbs'.

It may be noted that not all verbs that are classified as descriptive verbs on the basis of their distribution in different verb forms are 'descriptive of states' in the way that the verbs in (1) may be said to be. Thus:

- 5. Kofi nam (Kofi (cont)+walk: Kofi is (in a state of) walking).

As with the action verbs described in the previous subsection, there are verbs that may appear in both stative and active frames. Consider, for instance, the following sentences:

- 6a. Stative: odò no (he+(cont)+love her: He loves her)
- b. ná odò no (past he+(cont)+love her: He loved her)

1. While the former of these sentences is quite unacceptable, the latter is interpretable. The situations in which it may be used, however, are rather peculiar and the interpretation is highly 'modal'. An appropriate situation might be as follows: suppose that the speaker is unfamiliar with Kofi, and he is shown Kofi's shirt which he spreads out; seeing the size of the shirt he might exclaim Kofi beso 'Kofi must be fat!', 'Kofi will be fat! etc.'. This situation appears to be rather different from that discussed in the previous note, since it involves modal complications which are not explored further here: it does, however, add some additional force to the speculations in III.2.2d above with respect to the possible modal derivation of the 'future' verb form.

- 1a. nsuo no dwo (water the (cont)+cool: The water is cool)
 b. nsuo no adwo (water the perf+cool: The water is cool =
 no longer hot)

(a) might be appropriate when talking about the temperature of the sea or a river (which we may suppose was never 'hot')

(b) would be appropriate of bath water (if we may suppose that the speaker expects it to be hot): (a) contains a stative descriptive verb and (b) a stative inchoative verb.

We may now observe that there is a class of verbal phrases which is characteristically found only in the perfect:

- 2a. ne ho afono no (her self perf+disgust him: He is fed
 up with her)
 b. n'ani akum (his 'eyes perf+kill: He is tired)
 c. ne were aho (his heart perf+dry-up: He is sad)

Such items as Christaller notes "express some bodily or mental action or affection, state or condition and have this peculiarity, that some part of a person's body is mentioned as the grammatical subject or object of the sentence, to which the noun or pronoun denoting the person (the logical subject or object) forms an attribute in the possessive case" (216.1).¹

Such items operate like other state perfect items discussed earlier. We may also note that whereas such items are characteristically and most commonly found in the perfect, they may also be found in other forms. Here, as expected, they have an inchoative interpretation:

- 3a. n'ani rekum (his 'eyes prog+kill: He is tiring)
 b. ne were reho (his heart prog+dry-up: He is getting sad)
 c. ne ho refono no (her self prog+disgust him: He is
 getting fed up with her).

1. Sentences like those illustrated are discussed in more detail in Chapter VI. For our present purposes we may regard items like ANI KUM as a 'complex lexeme' (cf. III.4 below).

We may also observe that not all verbs "expressing some bodily or mental action or affliction" are stative inchoatives. Thus note sentences like:

4. ne ho twa (his self (cont)+cut: He is quick)

which is a descriptive verbal process. In this instance a sentence like:

5. *ne ho atwa

is uninterpretable. It is tempting to refer once again to the distinction drawn above between 'resultant' states ('he is tired' 'he is sad' etc., and 'inherent' states ('he is quick') etc. The question will be examined further in Chapter 6 below.

III.3.4 Verb forms and process classes: Summary

We have noted that the maximal paradigm for the verb in ^{indicative} ~~indicative~~ sentences distinguishes six different verb forms: cont., hab., prog., pret., perf., and fut. We have also noted that in affirmative indicative sentences not all verbal lexemes are capable of appearing in all of these forms. In III.3.²/₃ and III.3.³/₄ we have attempted to account for some of the 'defective' paradigms. We may summarise our findings thus:

In an active sentence the verb may not appear in the continuative form. Furthermore, descriptive verbs do not appear in the progressive form.

In a stative sentence, action verbs may appear in any verb form, including the continuative, except the habitual and progressive; descriptive verbs appear only in the continuative, and inchoative verbs only in the perfect.

These restrictions allow us to account both for verbal lexemes that have a limited range of verb forms open to them, and also for verbal lexemes that will take all of the verb forms. Thus, as we observed in III.3.1 verbs which have a 'defective' paradigm are defective by virtue of the fact that the lexeme in question has a restricted range of transitivity frames which it will satisfy, whereas verbs which have a 'complete' paradigm do so by virtue of the fact that they will be found in a number of transitivity frames. For example: KASA 'speak' (A,ac) does not appear in the continuative; NIM 'know' (S,desc) appears only in the continuative; BIRI 'be black' (A,desc) does not appear in the continuative or progressive.

This also allows us ^{to} account for the fact that some verbal lexemes appear 'peculiar' in some verb forms, although they may not be actually impossible in that verb form. Thus, as we noted, forms like oredo me can only be understood inchoatively, if they are acceptable ('he is falling in love with me').

It furthermore allows us to account for some of the variation in sense that a given verbal lexeme exhibits in different sentences. Some of the examples we have discussed at various points include sentences like:

- 1a. kanea no hyiren (S,desc) (lamp the (cont)+bright: The lamp is bright)
- b. kanea no rehyiren (A,ac) (lamp the prog+shine: The lamp is shining)
- 2a. dwete no hoa (A,desc) (silver the (hab)+white: silver is white)
- b. aburoo no ahoa (A,inch; S,inch) (corn the perf+white: the corn has become silver/the corn is ripe)

- 3a. aberewa no popo (A,desc) (old-woman the (hab)+shake:
the old woman has the shakes)
- b. aberantee no repopo (A,ac) (young-man the prog+shake:
the young man is shivering)
- 4a. Onyankopon tew (S,desc) (God (cont)+holy: God is holy)
- b. ne ho atew (A,inch; S,inch)(his self perf+holy: He
has become holy/he is holy)

This multiple classification of given verbal lexemes opens up interesting vistas for semantic analysis since it allows us to discuss very many different types of relationship that exist between verbal lexemes. Some of the problems that arise in this sort of operation have been outlined in §II.4.5b with respect to 'ergative' and 'causative' sentences, others are implicit in the preceding discussion, but are not pursued further here.

III.3.5 The Semantic interpretation of verbal categories

It will be clear from the previous discussion that no simple semantic interpretation is possible for any single morphosyntactic feature. The interpretation of any feature will depend on what other features it is in construction with both in the same feature bundle, and in other feature bundles within the transitivity frame as a whole; and, indeed, on aspects of the sense of the lexical items within the sentence.

The analysis that has been presented is based on formal considerations rather than notional considerations: thus, for instance, leading to such apparent anomalies as discussing verbs like SI 'stand' as 'action verbs in stative sentences; or verbs like NAM 'walk' as a descriptive verb in stative sentences. It is, however, difficult to see any other way

in which an analysis might proceed. Certainly it leads to evident complexities when we attempt to start from the notions themselves.

The sorts of difficulties that arise are exemplified here by a brief discussion of certain categories and forms.

Consider the notion of 'state'. As we have seen there are a number of constructions that might be held to describe states. Thus action and descriptive verbs in the continuative describe states:

- 1a. Kofí hyè ekyé (Kofi is wearing a hat)
- b. Kofí sùà (Kofi is small)

Descriptive verbs in the habitual may also describe states:

- 2. Kofí yaré (Kofi is ill)

Inchoative verbs in the stative perfect also describe states:

- 3. Kofí á'wú (Kofi is dead)

We might even wish to say that N_p intransitive action verbs in the progressive describe states:

- 4. kanéá nó rehyirén (The lamp is shining).

Conceivably we might wish to differentiate between, say, 'essential' 'transitory' 'resultant' etc. states (as, for example, we might say that (1b) is 'essential'; (1a,2) are 'transitory' and (3) is 'resultant'), but it is not clear that such an identification is possible without taking into account the particular verb stem involved. Thus SUA (1b) is a descriptive stative verb; but so too is NAM 'walk':

- 5. Kofí nàm (Kofi is walking)

and (5) could hardly be described as an 'essential' state in the same sense as (1b) might.

To progress from the other direction: it is clearly not

possible to make any generalisations about the interpretation of a given form (or a given category) without taking into account other features of the transitivity frame etc.

Thus, for instance, the continuative describes a state in (1), but in (5) unless we extend state to include the notion of 'state of motion' then they differ in interpretation. Or again, the perfect in (3) may indicate a 'resultant state'; but in

6. Kofí á'yaré (Kofi has been ill)

there is no resultant state interpretation within the sentence itself.

The only sorts of generalisations that appear to be relevant are those of the kind that I have tried to offer in the preceding sections, where a given form, or feature is seen as having a broad meaning in some particular transitivity frame: it is the frame as a whole that is important. The relevance of such generalisations may however be seen from the fact that it is thus that we can distinguish between the different senses of those verbs that have a multiple transitivity classification.

It is interesting in this connection to relate the above remarks to Christaller's notional classification of verbs (85): (not all of Christaller's examples have been included here).

"A verb is a word by which we ascribe doing or being (action or state and quality) to a person or thing called the subject.

The action or state expressed by the different verbs may be:

1. an action of the subject concerning an object; e.g.
bo 'to strike', di 'to eat' hu 'to see' ...
2. an action (or motion) confined to the actor:
 - a. an active state:
su 'to weep' goro 'to play' ...
 - b. a change of state:
nyin 'to grow', bere 'to ripen' ...
3. an inactive state:
 - a. a temporary state or condition:
da 'to lie', gyina 'to stand', homé 'to rest'
yaré 'to be sick'
 - b. a lasting quality:
so 'to be large', sua 'to be small', ware 'to be long'
beré 'to be red'."

III.4 Complex verbal lexemes.

There are some types of verbal expression which it will be appropriate to regard as complex lexemes. These include the underlined expressions in sentences like:

1. megye wo di se (I believe you that ...)
2. steaa mu (He cried out)
3. wabo dam (He has gone mad)

The underlined items in (1) are, morphologically, two verbs; in (2) the items are respectively a verb and a particle; and in (3) they are a verb and a noun or nominal expression. We do not discuss such constructions in any detail here or account for them formally, and this section is something of an appendix to this Chapter.

III.4.1 Double based verbs.

Constructions like those illustrated in (1) above are particularly difficult to analyse. In the case of the sentence quoted it seems that the most satisfactory treatment is to regard GYE DI as a double based verb. For both semantic and syntactic reasons there does not seem to be any advantage in proceeding otherwise. Thus, while both GYE 'take, accept etc.' and DI 'eat' are verbal lexemes in their own right, GYE DI does not appear, synchronically, to be derivable semantically from any combination of these two items: at the very least there seems no point in trying to achieve such a double based verb by a combination of two simple verbs within the syntax. For such cases it might be appropriate to have a rule which rewrites the Vb node as Vb + Vb, rather in the way that some aspects of co-ordinated NPs might be handled by a similar rule for the NP. ~~(cf. discussion in III.4.3b).~~

At what might be regarded as the opposite extreme we have sentences like:

1. onoa aduane no diye (He cooked the food and ate it)
which superficially resemble sentences like (1), yet we have argued (in Chapter II.2^{3.1}~~2.2~~) that these are serial sentences.

In between these two extremes there are a number of different types of sentence involving more than one verbal lexeme. Some of the possibilities have been illustrated with respect to modals and the ingressive forms discussed previously in this Chapter. Others involve various other types of modal and aspectual modifications of the predication:

Christaller lists a number of possibilities which he considers to be "auxiliary verbs (which) are used to express various modifications and relations of actions (seldom of states). We consider these combinations as a kind of compound inflectional form" (106ff). Clearly this is an area which requires a good deal more research, and it is not pursued further here.

III.4.2 Range nominals

Expressions like BO DAM 'go mad' in a sentence like:

1. wabɔ dam (He has gone mad)

need to be distinguished from sentences involving NP objects. I shall refer to such expressions as range nominals. The term range is borrowed from Halliday (1967:58) but used in a slightly different sense. A range nominal may be thought of as limiting, defining or further specifying the scope of the action described in the verb as such range nominals are highly specific and generally restricted to single items; as Christaller remarks "some of the nouns used as complements are scarcely used otherwise than in connection with the particular verb with which they belong: the real meaning is often obscure" (211). As such they have a rather 'adverbial' quality, and would need to be entered in the lexicon (as Christaller does in his dictionary) as idioms, like BO DAM 'go mad'.

Their syntax is also more restricted than is the case with the NPs which expound case feature bundles. Thus, as we have noted, range nominals are, in general, so specific that no other item is permissible. Unlike other NPs range

nominals are not found in construction with determiners, quantifiers and other nominal modifiers. Thus compare the syntax of:

2. okyerekyerefoɔ no boroo abɔfora no (The schoolteacher beat the child)

3. abaawa yi goroo abayigoro (This woman practiced witch-craft)

The verb in (2) - BORO 'beat' is in construction with an N_p NP; the expression GORO ABAYIGORO 'practice witch-craft' in (3) is a one place expression involving a verb (GORO) and a range nominal. Corresponding to (2) we will find sentences like:

4. okyerekyerefoɔ no boroo abɔfora bi (The teacher beat a child)

okyerekyerefoɔ ^{no boroo} /mmɔfora no (The teacher beat the children)

okyerekyerefoɔ ^{no boroo} /mmɔfora mmienɔ (The teacher beat ~~the~~ three boys)

But there are no sentences:

5. *abaawa yi goroo abayigoro no/bi/mmienɔ

etc. Similarly range nominals may not be pronominalised or deleted:

6. okyerekyerefoɔ no boroo no (The teacher beat him)

okyerekyerefoɔ no boroyɛ (The teacher beat it)

but not:

7. abaawa yi goroo no

abaawa yi goroyɛ

(not, at any rate, in the sense intended: the sentences are acceptable in other senses 'the woman fondled him'; 'this woman played'). Similarly with an expression like Bɔ NKɔMMɔ 'converse':

8. Kofi bɔɔ Kwaame nkɔmmɔ (Kofi conversed with Kwaame)

but not:

9. *Kofi bɔɔ Kwaame n^kɔmmɔ bi/yi/no/baako

etc.

It is in this sense that it seems appropriate to refer to such items as range nominals, rather than as NPs which have a 'object' or 'complement' type of relationship to the verb.

Some one place verbs may be found in construction with a nominalisation of the verb stem:

10. wɔkoo nkoden (They fought a hard fight)

ɔyare yarepa (He is sick of a severe illness)

These items too seem best treated as range nominals.

By analogy with double based verbs discussed above I regard such items as a complex lexeme: if such an item is chosen, then the verb node would be expanded as Vb + N. The surface ordering of range nominals may be noted: in general they follow the verb, or the object if there is one (a reordering transformation is therefore necessary):

11. Kofi bɔɔ nsera (Kofi marched)

Kofi bɔɔ nserafɔɔ no nsera (Kofi marched the soldiers).

Range expressions appear to be distributed over the whole spectrum of transitivity frames: compare examples like:

12. Kofi bɔɔ Kwame fɛ (Kofi wounded Kwaame)

Kofi ne Kwaame bɔɔ abɔdom (Kofi and Kwaame slept together)

Kofi bɔɔ mpae (Kofi prayed)

Amma bɔɔ ampe (Amma played ampe (a girls game))

Kofi bɔɔ mmɔden (Kofi tried hard)

Kofi bɔɔ dagya (Kofi had a nightmare).

We shall not consider range nominals further here.

III.4.3 Range particles

Some verbs in particular senses may be in construction with a particle. The items which are used as particles in such constructions also have a variety of other syntactic usages, thus, in the following sentences:

- 1a. ahina no ase ye fi (pot the bottom (cont)+be dirty:
the bottom of the pot is dirty)
- b. Kofi te bepo no ase (Kofi (cont)+live hill the bottom:
Kofi lives at the bottom of the hill)
- c. mate Kofi ase (TE ASE 'understand': I+perf+understand
Kofi: I understand Kofi)

ase is a head noun in (a), a locative particle in construction with an NP in a locative expression (bepo no + ase) in (b), and a range particle in construction with a verb (TE ASE 'understand') in (c).

Generally speaking, in verb + particle constructions the particle to be selected must be specified in the lexicon since there is no (or little) freedom of choice. Indeed verb + particle may be considered to be a 'complex lexeme'. Thus te ase has the sense 'understand', and the selection of any other particle is either nonsensical, or makes a sentence with a different sense. There are no such restrictions on the selection of items like ase when they are used as head nouns, or as locative particles:

- 2a. ahina no ano (ho; mu) ye fi (pot the mouth (outside;
inside) (cont)+be dirty: the mouth (outside,
inside) of the pot is dirty)
- b. Kofi te bepo no so (ho; akyi) (Kofi (cont)+live hill
the top (side; back): Kofi lives on top of
(beside, beyond) the hill).

It will be obvious therefore that ambiguous constructions may be found: though these are not usually ambiguous in context:

- 3a. Kofi daa shene no ase (DA ASE 'thank': Kofi thank+pret
chief the: Kofi thanked the chief)
- b. Kofi daa dua no ase (DA 'lie' + locative complement:
Kofi lie+pret tree the under: Kofi lay under
the tree)
- a. Kofi hwɛɛ bepo no so (HWE 'look at' + object expression:
Kofi look-at+pret hill the top: Kofi looked at the
top of the hill)
- b. Kofi hwɛɛ sukuufɔɔ no so (HWE SO 'supervise': Kofi
supervise+pret schoolchildren the: Kofi supervised
the schoolchildren)

etc.

Generally speaking particles in such constructions cannot be deleted, pronominalised, clefted or questioned: thus compare the following with the sentences in (1):

- 4a. eye fi (It (sc. the bottom of the pot) is dirty)
- b. Kofi te ho (Kofi lives there (sc. under the hill))
- c. m'ate n'ase (I understand him (sc. Kofi))
*m'ate no/ho etc.
- 5a. edeen na eye fi (what 'it+is' it+(cont)+be dirty:
what is dirty?)
- b. shefa na Kofi te (where 'it+is' Kofi (cont)+live:
where does Kofi live?)
- c. hwan na wate n'ase (who 'it+is' you+perf+understand
him: who do you understand?)
- d. *hwan/eedeen/shefa na wate
- 6a. ahina no ase na eye fi (pot the bottom 'it+is' it+
(cont)+be dirty: It is the bottom of the pot
that is dirty)
- b. bepo no ase na Kofi te ho (hill the bottom 'it+is'
Kofi (cont)+live there: it is at the foot of
the hill that Kofi lives)
- c. Kofi na mate n'ase: (Kofi 'it+is' I+perf+understand
him: Its Kofi I understand).
- d. *Kofi ase na mate

The relationship between verb and particle is not the same in all cases. The differences may be discussed in terms of two interacting parameters:

a: the degree of 'cohesion' between verb and particle
 b: the collocation restrictions between a given verb and the set of particles.

Let us first discuss these parameters as they affect two-place verbs. First we examine two verbs at opposite extremes along both parameters:

- 7a. mabere (I+perf+tire: I am tired)
 * Kofi abere me (Kofi perf+tire me: Kofi has tired me)
 b. mabere ase (BERE ASE 'humble': I+perf+humble: I am humble)
- 8a. spono no abue (door the perf+open: The door is open)
 Kofi abue spono no (Kofi perf+open door the: Kofi has opened the door)
 b. adaka no so abue (box the top perf+open: The box is open)
 Kofi abue adaka no so (Kofi perf+open box the top: Kofi has opened the box)
 c. Kofi abue nwoma no mu (Kofi perf+open book the inside: Kofi has opened the book)
 d. Kofi abue kerataa no ano (Kofi perf+open letter the mouth: Kofi has opened the letter)

First let us consider the sentences (8⁷). First note that BERE and BERE ASE must be considered as two separate lexical entries. BERE in (7a) may be considered as an inchoative/ergative verb. BERE ASE in (7b) may also be considered as an inchoative/ergative verb: thus, for example note sentences like:

- 9a. *bere ase (be humble)
 b. bere wo ho ase ((opt)+humble your self: be humble)
 (i.e. the two-place ergative form may be imperativised, but not the inchoative one-place form)
- 10a. emaa me bere ase (it+'cause'+pret me humble+pret: it made me humble)
 b. emaa me bere me ho ase (it+'cause'+pret me humble+pret my self: it made me humble)

Note, however, that in either the inchoative or ergative forms of (7b) the particle follows the verb. This close cohesion between verb and particle may be observed in cleft and question sentences too:

11a. me na Kofi abere ase (me 'it+is' Kofi perf+humble:
It is me who Kofi has humbled)

*me ase na Kofi abere

b. hwan no Kofi abere no ase (who 'it+is' Kofi perf+humble him: Who has Kofi humbled?)

c. hwan na Kofi abere no (who 'it+is' Kofi perf+tire him: Who has Kofi tired?)

And note the question and answer sequence:

12. Q: hwan na Kofi abere no? (who 'it+is' Kofi perf+tired him: Who has Kofi tired?)

A: wabere no asee (he+perf+humble him: he has humbled him)

would hardly be acceptable since the response is not an answer to the question. Finally we observe that in the case of BERE ASE there is no choice of particle.

Turning now to the sentences (8) we note a rather different situation. There appears to be only one lexical entry involved. With certain types of 'object' BUE characteristically selects an appropriate particle, and with other types of object it characteristically selects no particle. The selection of the particle appears to be governed by the type of orifice that opening involves - the top of the box, the inside of the book, the mouth of the letter etc., and sentences like:

13a. obuee adaka no ano

b. obuee nwoma no so

are anomalous (and may be compared with the forms in (8b,c). The selection of the appropriate particle in other words depends on the object noun. Again, while both BERE ASE and

BUE may be considered as inchoative/ergative verbs, note the differences between them with respect to the placement of the particle, and similarly note that with cleft and question sentences we may find sentences like:

- 14a. adaka no na Kofi abue so (box the 'it+is' Kofi perf+open top: It is the box Kofi has opened)
- b. adaka no so na Kofi abue (box the top 'it+is' Kofi perf+open: It is the box that Kofi has opened)
- c. edeen na Kofi abue so (what 'it+is' Kofi perf+open top: What has Kofi opened?)
- d. den so na Kofi abue (what top 'it+is' Kofi perf+open: What has Kofi opened?)

and note the question and answer sequence:

15. Q: edeen na Kofi abue (what 'it+is' Kofi perf+open: What has Kofi opened?)

A: wabue adaka no so (he+perf+open box the top: He has opened the box)

wabue tumpun no ano (he+perf+open bottle the mouth: He has opened the bottle)

is acceptable (cf. the unacceptability of (12) above).¹

In terms of the two parameters noted at the beginning of this section, I shall refer to verbs like BERC ASE as having close cohesion between verb and particle, and verbs like BUE as having loose cohesion: cohesion referring primarily to syntactic characteristics such as those illustrated in the comparison between (11) and (14) (note that in such constructions the particle does not precede the verb stem in the case of those verbs with close cohesion). Similarly I shall call the collocational restriction to ASE in BERC ASE close collocation, and the relative freedom of BUE in

1. These examples might be compared with English sentences involving open; open out; open in; open up etc.

particle selection I shall refer to as loose collocation.¹

Collocational restrictions between verb and particle vary. In the case of BERC ASE we note a case of close collocation restricted to a single given particle. At the opposite extreme we find loose collocation, the particular NP selecting the particle, or there being no particle at all. There are various extremes between these limits.

Consider first sentences like:

- 16a. *orepaepae eboɔ no (mu) (he+prog+red+split stone the inside): He is splitting the stone)*
 b. *ɔhaneɛ asau no (mu) (he+spread+pret net the (inside): he spread the net (out)).*

In these cases the particle is optional (as, note, it is also optional in English), but the selection of particle is restricted to *mu*. Thus there are no sentences:

17. **orepaepae eboɔ no aseɛ*
 **orehaneɛ asau no so*

and so on. In other words there is close collocation between verb and particle, but the particle is optional.

There are other cases like:

- 18a. *ɔdwen ne maame ho (he+(hab)+think his mother exterior: He thinks about his mother)*
 b. *ɔdwen ne maame so (he+(hab)+think his mother top: He thinks of his mother)*

1. It may be observed that for many items in close collocation and close cohesion there is a parallel nominalisation of the verb + particle expression. For instance:

- hwe so - sohwe (supervision)*
da ase - aseda (thanks)
bere ase - asebere (humility)
siesie ho - hosiesie (prepa redness)
te ase - nteaseɛ (understanding)

In general this is not the case for items in loose collocation: Thus there are no nominalisations:

- **sobue*, **anobue* etc.

corresponding with the sentences illustrated in (8).

where the particle is obligatory, but the selection of particle is restricted to so or ho. There are no sentences:

19. *ɔdwen ne maame mu/asee etc.

but on the other hand it cannot be said that a particular particle is selected by the NP in question. In other words there is close collocation between a verb and one of two particles.

A more difficult case is found in sentences like:

- 20a. Kofi hwee sukuufɔɔ no so (HWE SO 'supervise': Kofi supervise+pret schoolchildren the: Kofi supervised the schoolchildren)
 b. Kofi hwee sukuufɔɔ no ho (HWE HO 'look after': Kofi look-after+pret schoolchildren the: Kofi looked after the schoolchildren)
 c. Kofi hwee nwoma no so/ho (Kofi looked after the books)

It is clear here that the particular choice of particle is not governed by the choice of object NP: and equally, with the sense intended it is not possible to change the particle:

- 21a. Kofi hwee sukuufɔɔ no ase (Kofi look+pret school-children the under: Kofi looked under the school-children NOT Kofi 'looked after' the children)
 b. Kofi hwee asem no mu (Kofi look+pret matter the inside: Kofi looked into the matter)
 ?Kofi hwee sukuufɔɔ no mu

It seems that in such cases the decision must ultimately rest on semantic criteria: in the case of the sentences in (20) is there sufficient semantic differentiation between HWE SO and HWE HO to justify considering them as two lexical items, or do we consider them as a single lexical item? The same sort of consideration of course applies, though perhaps less acutely, in the case of DWEN SO/HO noted above, and note that in this particular case the glosses given may be misleading. I shall consider HWE to be like DWEN: an example of an item

in close collocation with a choice of two particles.

Generally speaking, items in close collocation are also in close cohesion: thus, for instance:

- 22a. medaa ohene no ase (DA ASE 'thank': I+thank+pret
chief the: I thanked the chief)
- b. ohene no na medaa no ase (chief the 'it+is' I+thank+pret:
It was the chief I thanked)
- c. * ohene no ase na medaa no
- a. mete Kofi ase (TE ASE 'understand': I+(cont)+understand
Kofi: I understand Kofi)
- b. Kofi na mete n'ase (Kofi 'it+is' I+(cont)+understand:
It is Kofi I understand)
- c. * Kofi ase na mete no
- a. Kofi goroo Amma ho (GORO HO 'fondle': Kofi fondle+pret
Amma: Kofi fondled Amma)
- b. Amma na Kofi goroo ne ho (Amma 'it+is' Kofi fondle+pret
pret her: It was Amma Kofi fondled)

There are, however, some items which are in close collocation which are not also in close cohesion: thus the following are acceptable:

- 23a. eboc no mu na orepaepae (stones the inside 'it+is' he+prog+red+split:
It is the stones he is splitting up cf. 16a)
- b. mwoma no so na arehwe (books the 'it+is' he+prog+look-after:
it is the books he is looking after cf. 20c)

though even in these cases, it would be more usual to find the particle after, rather than in front of, the verb.

Yet another type of relation between verb and particle may be found in the following examples:

- 24a. owo no dco mu (snake the 'enter'+pret inside: the
snake disappeared)
- b. owo no dco ne tokuro no mu (snake the 'enter'+pret his
hole the inside: the snake disappeared into his hole)
- c. otwenn mu assawa bi (she+pull+pret 'out' thread a:
she pulled a thread out)
- d. otwenn assawa bi firii ne kotokuo no mu (she+pull+pret
thread a come-out+past her bag the inside:
she pulled a thread out of her bag).

In these examples the particle may be thought of as a kind of reduced locative: in the case of the (a) sentence a 'place locative', in the case of the (b) sentence a 'directional locative'. The (b) sentences may be compared with the sentence:

25. otwenn assawa bi mu (TWEN MU 'stretch': she stretch+pret thread a: She stretched a thread)

where TWEN MU may be regarded as a verb similar to those discussed in connection with (1b) above: the difference in ordering will be apparent and may be illustrated in the following set of sentences:

- 26a. wotwenn mu nneema (they+pull+pret out things: they unloaded (the things))
 b. wotwenn nneema firii ehyen no mu (they+pull+pret things come-out+pret ship the inside: they unloaded the ship)
 c. wotwenn nneema mu (TWEN MU 'stretch': they+stretch+pret things: They stretched the things)
 d. ?wotwenn mu ehyen no (they+pull+pret out ship the: ?They unloaded the ship (from something else))
 e. ?wotwenn ehyen no mu (TWEN MU 'stretch': they+stretch +Pret ship the: ?They stretched the ship).

The problem here is to decide whether the form with just the particle is to be derived from a 'fuller' form with a locative - as it were, the sentence underlying (24b^a-i) resembles that underlying (24b~~1~~) - or whether the form with a particle derives, like other sentences we have been examining, from a form with just a particle. I adopt the latter solution, and shall suppose that the forms with the full locative expression are derived, like other sentences with locative expressions from locative case feature bundles.

In order to distinguish between these three types of particle within the grammar I shall consider that items in

suppose that a PS rule expands NPs as NP + part in cases where the lexical selection specifies this.

III.5 The morpho-syntax of the verb word

It has already been proposed that the Nucleus should be developed by the rule:

Nucleus → Q1 + Core

where Q1 is developed into a feature bundle to account for tense, aspect, polarity etc. and Core into a series of feature bundles to account for the lexical material in the nucleus. Here we are concerned with those rules that develop Q1 and relate the features here to constituents in the constituent structure component. However, as noted in the text, we shall be primarily concerned only with the forms discussed in III.^{2.2a}~~2a~~ and b: i.e. the simple indicative forms. The other forms are either outside the scope of this work, like the Ingressive forms, reduplication and the distribution of the subjunctive forms, or are considered to be entirely accounted for in the phonological component, like the connected forms. Furthermore, as we have noted, a proper specification of the features of Q1 would require further research, so that the set of features with which we shall be dealing is of a rather straightforward nature. Finally no attempt is made to account for the morpho-phonemics of the verb word.

The proposals are in line with other proposals elsewhere in the description. At the level of functional structure, composition rules and conditions will account for the well-

formedness of feature bundles. Constituent structure rules are interpretative of functional structure.

Composition rules:

| | | | |
|---------|---|--|------------|
| Q1 | → | {stative active} | (negative) |
| stative | → | {present future perfect optative} | |
| active | → | {present progressive preterite perfect future optative} | |

Conditions:

1. PC (stative
present) Q1 (X descriptive Y)_{Core}

i.e. descriptive stative verbs only occur in the continuative form of the verb.

2. PC (stative
perfect) Q1 (X inchoative Y)_{Core}

i.e. inchoative stative verbs only occur in the perfect.

3. NC ~ (active
progressive) Q1 (X descriptive Y)_{Core}

i.e. descriptive verbs in active sentences do not occur in the progressive.

Constituent structure rules:

| | | |
|-----|---|---|
| Vb | → | Asp (+Neg) +VS |
| Asp | → | {continuative habitual progressive future perfect preterite optative} |

1. Neg is only chosen if the feature bundle under Q1 specifies neg.

2. Asp markers are chosen according to the following rules:

| <u>Q1 features</u> | | <u>Asp marker</u> |
|--------------------|-------------|-------------------|
| stative | present | continuative |
| | future | future |
| | perfect | perfect |
| | optative | optative |
| active | present | habitual |
| | progressive | progressive |
| | future | future |
| | perfect | perfect |
| | preterite | preterite |
| | optative | optative |

It is assumed that a morpho-phonemic component similar to that proposed by Schachter and Fromkin (1968), will derive the appropriate surface form. This component will include rules which relate affirmative and negative forms; produce the correct surface order for the preterite morph (post verbally); delete opt markers in second person singular 'direct imperatives'; etc.

CHAPTER FOUR: ERGATIVE AND NOMINATIVE.

IV.1 Introduction

Our primary concern will be with the following case feature bundles: erg(ative) (E); erg act(or) (E_a); nom(inative) pass(ive) (N_p) and nom conc(ern) (N_c).

An NP characterised as erg is typically animate and may be identified with the 'initiator' of the action or state identified by the verb. Like Fillmore's agentive case an erg NP expresses "the case of the typically animate perceived instigator of the action identified by the verb" (1968:24); this description may be compared with Anderson's similar characterisation: "the case category 'ergative' ... introduces the N that is regarded as the initiator of the 'action' associated with the verb (1971:40). Halliday uses the term 'initiator' in a similar manner (1967).

An NP characterised as nom may be said to "suffer the action (identified by the verb), or (be) affected or otherwise concerned by it" (Chr:200.1). nom thus resembles Fillmore's objective case "the semantically most neutral case, the case of anything representable by a noun whose role in the action or state identified by the verb is identified by the semantic representation of the verb itself" (1968:25). My own use of nom, is somewhat more specific than Fillmore's. It differs from Anderson's use of the term nominative (1971) and bears no immediate resemblance to any single feature discussed by Halliday (1967).

The feature act may be associated with the notion of the 'performer' or 'actor' of the action described by the verb,

and may be compared with Halliday's use of the same term (1967). Here it is considered solely as a subsidiary feature to erg.

The features pass and conc are secondary to the feature nom; neither is ever associated with an erg feature bundle. pass may be correlated with the traditional notion of the 'passive' object of a transitive verb - i.e. the NP that may be said to 'suffer the action identified by the verb'. It is not, however, to be associated solely with the notion of a 'passive object' since it may be the sole feature bundle in a given sentence. conc NPs may be said to be 'concerned with the action identified by the verb', but not to 'suffer it'. nom conc is never the sole case feature bundle in a sentence.

As we have already seen, transitivity frames are specified not only for case features, but also for features of aspect and process. These have already been discussed in Chapter III. We shall be concerned with the major aspectual distinction between S(tative) and A(ctive) sentences, and with the process distinctions ac(tion), desc(riptive) and inch(oative).

Not all combinations of case, aspect and process features are possible. The combinations of erg and nom with the aspect and process features noted that we shall be primarily concerned with in this chapter are as follows:¹

1. Most of the sentences with which we shall be concerned in this and subsequent chapters are of the simple form introduced in Chapter I.3, and extensively illustrated in previous chapters. We shall therefore discontinue giving morpheme-by-morpheme glosses for sentences of this form. In instances where it is thought that a morpheme-by-morpheme gloss would still be useful to the reader, these are included in the form already established.

- 1a. A: ac E_a
 b. okyeame no rekasa (The linguist is speaking)
 Amma sa fefeefe (Amma dances beautifully)
- 2a. A: ac E_a N_p
 b. gyata no kyeree akura no (The lion caught the mouse)
 Asare piaa Kwaame (Asare pushed Kwaame)
- 3a. A: ac E_a N_c
 b. yebekamfo yen wura (We will praise our master)
 Kofi rekan nwoma bi (Kofi is reading a book)
- 4a. A: ac N_p
 b. oseram no rehyiren (The moon is shining)
 nsuo no rehuru (The water is boiling)
- 5a. S: desc N_p
 b. Kofi so (Kofi is fat)
 Kofi sua (Kofi is small)
- 6a. A: desc N_p
 b. me ba no yare (My child is sick)
 ewira no bon (The bush smells)
- 7a. S: desc E N_c
 b. wote Twii anaa? (Do you speak Twii?)
 medo me yere (I love my wife)
- 8a. A: desc E N_c
 b. medo me yonko no (bere aa onha me) (I love my
 neighbour (when he doesn't annoy me)
 onhu akyiri dee (he+(hab)+neg+perceive far-away thing:
 He is short sighted)
- 9a. A: inch N_p
 b. nsuo no regyae (The rain is stopping)
 Kofi rewu (Kofi is dying)
- 10a. S: inch N_p
 b. Kofi awu (Kofi is dead)
 nkwan no api (The soup is thick)

The relevant combinatorial restrictions are accounted for formally in the rules in Chapter VII. An informal account of these restrictions, together with some comments, is however useful:

a: A stative transitivity frame cannot have the case feature actor.

b: With an action process, an ergative case feature bundle must also have the case feature actor (i.e. with an action verb the subject, if it is the 'initiator' (E) must also be the actor (a)).

c: With a descriptive process, there can be no case feature actor.

d: With a descriptive process in a two place transitivity frame, there can be no nominative passive case feature bundle (i.e. descriptive verbs do not take passive objects, which may be said to 'suffer the action described by the verb').

e: nominative concern cannot be the sole case feature bundle in a transitivity frame.

These conditions account for the restrictions on the co-occurrence of aspect process and erg and nom case feature bundles in (1-10) and also in other parts of the work, since, as we shall see most of the frames these conditions permit will also occur with dative and locative case feature bundles, but no frames that they do not permit occur with dative or locative bundles.

It will be observed that (5) and (6); (7) and (8); and (9) and (10) pair off into active and stative frames. (1-3) have no stative counterparts by condition (a) above. The conditions do not, however, rule out a stative counterpart

to (4). I can find no example of a verb that fits a one-place S: ac N_p frame: it is, however, not explicitly excluded by the conditions since such a frame does appear with dative and locative bundles:

11a. kanea no si opono no so (The lamp stands on the
table: S: ac N_p L_{pl})

b. Kofi fura ntoma (Kofi is wearing cloth: S: ac N_p D_{ad})

Sentences like these will be discussed in later chapters.

In addition to the primary features, there are a number of subsidiary features that are also discussed in this Chapter. In IV.4.1 we discuss agentive ergatives (E_{a,ag}) like:

12. ode nnua bi duaye (He planted some trees).

As we shall see agentive is restricted as a secondary feature to E_a in frame (2): i.e. it only appears in active two place sentences with a passive object. As we noted in Chapters II and III certain verbs with E_{a,ag} subjects also permit agent deletions:

13. oduaa nnua bi (He planted some trees).

Where this is the case, we will symbolise this as: E_{a(ag)}. We have already noted that not all verbs which appear in a surface sentence analogous to (13) also have an agentive form analogous to (14): such a form is clearly impossible in the case of intransitive verbs, but it is equally impossible to transitive verbs in the frame (2):

14. gyata no kyeree akura no (The lion caught the mouse)
but not:

15. *gyata de akura no kyereye.

Where appropriate a verb can take an instrumental, which also

involves the auxiliary de, but this must be distinguished from the agentive:

16. ode abaa bi boo no (He hit him with a stick).

In IV.4.2 we discuss the resultative object: this is considered to be a secondary subclassification of nom conc, but subject to more stringent restrictions since it only appears as a secondary feature in the frame (3):

17. onwene ntoma (He weavss cloth).

In IV.4.3b we discuss joint case feature bundles and reciprocal verbs: these too are considered to be secondary features to be ascribed to the primary bundles discussed above. The sub-feature joint (jt) is postulated to account for the reciprocal interpretation and certain aspects of the syntax of sentences like:

18a. Kofi ne Kwaame rekasa (Kofi and Kwaame are talking
(to each other))

b. Kofi ne Kwaame se (Kofi and Kwaame resemble each
other).

Reciprocal (rec) is introduced to account for certain peculiarities of the syntax of reciprocal verbs like SE in (18b).

Restrictions on jt and rec will be discussed below.

IV.2.1 Obligatorily transitive and intransitive verbs

In this section we discuss some verbs that characteristically occur in only one of the transitivity frames outlined in the previous section. As we have already noted, many, perhaps most, verbal lexemes will appear in more than one transitivity frame and consequently we shall find that there are not many items in some frames. It should furthermore be noted that since we are dealing with 'transitive' and

'intransitive' verbs, and since these notions only apply to erg and nom frames many of the lexemes discussed in this section will in fact re-appear in later chapters.

The ordering of the sub-sections follows the taxonomy outlined in IV.1.

IV.2.1a.

1a. A: ac E_a

b. won mu baako soreye (One of them got up)

opatiriye (He slipped)

Asantefoo ne Dwabenfoo koye (The Ashantis and the
Dwabens fought)

okyeame no rekasa (The linguist is speaking)

Such verbs may be causativised:

2. me yere maa me saye (my wife 'cause'+pret me dance+
pret: My wife made me dance)

omaa no soreye (He made him get up)

but not ergativised:

3. * me yere saa me

* asore no

IV.2.1b.

1a. A: ac E_a N_p

b. okyerekyerefoo no boroo abofoa no (The teacher beat
the child)

adwumayefoo no retwitwa dua bi (The workmen are
cutting some wood)

odwiraa me (He slashed me)

m'agya hwee me (My father beat me)

Such verbs may be causativised:

2. memaa adwumayefoo no twitwaa dua bi (I made the workmen
cut some wood)

etc.

Note that there are no sentences involving these verbs that derive from underlying one place structures, either one place N_p structures:

3. *dua bi atwitwa (?some wood is cut)
- *abɔfora no aboro (?the child is beaten)¹

nor underlying one place E_a structures:

4. *ɔkerekyerɛfoo no reboro (?the teacher is beating)
- *adwumayɛfoo no retwitwa (?the workman is cutting).²

IV.2.1c.

- 1a. A: ac E_a N_c
- b. meresua Twii (I am studying Twii)
- abaa no resiesie wo dan no (The woman is preparing your room)
- yɛpam atadeɛ ha (They sew dresses here)

Such verbs may be causativised:

2. me kyerekyerɛfoo no maa me suaa Twii (My teacher made me study Twii)

etc.

As with the transitive verbs discussed in IV.2.1b above, these verbs may not appear in underlying one-place structures either E_a or N_c .

-
1. This sentence is ungrammatical in the sense intended. It is not, however, ungrammatical in the sense 'the child is drunk'. In this sense the sentence is regarded as deriving from an underlying sentence we may represent as abɔfora no aboro nsa 'the child has drunk liquor', with object deletion.
 2. The first sentence of this pair is only ungrammatical in the sense intended: it is of course grammatical in the sense glossed in the sentences (3) above. The second of these sentences is also grammatical if it is understood to have undergone object deletion: i.e. if it has the sense 'the workmen are cutting it (sc. wood etc.)'.

We may note however that this class of verbs, like those in IV.2.1b may be construed with 'non-referring erg and nom expressions (for further discussion cf. IV.3.2 below). Non-referring erg is generally realised by the bound pronoun ye- and non-referring nom by the noun adee. Thus note:

- 3a. meresua Twii (I am studying Twii)
yeresua Twii (Twii is being studied)
- b. meresua Twii (I am studying Twii)
meresua adee (I am studying)
- c. yeresua adee wo Legon (people study in Legon).

We will also note that object deletion may apply to this class of verbs.

4. meresua (I am studying it)

but sentences such as (4) are, as it were, 'understood transitively' even though they are surface one-place verbs.

Note that there are no sentences:

5. *Twii resua (?Twii is studied)

etc. which derive from underlying N_c one-place frames.

IV.2.1d.

- 1a. A: ac N_p
- b. nsuo no rehuru (the water is boiling)
ogya no redere (the fire is blazing)

These verbs may be causativised:

2. mframa no rema ogya no adere (The wind is making the fire blaze up)

etc. These verbs do not appear in two-place underlying structures (i.e. they may not be ergativised):

3. *mframa no redere ogya no.

We may note that such verbs appear in all of the active forms.

IV.2.1e

- 1a. S: desc N_p
 b. Kofi ye (Kofi is good)
 edan no so (The room is large)
 abofora no sua (The child is small)

These verbs generally appear in the continuative form alone. They do not appear in any of the active forms, cannot be ergativised etc., nor can they be causativised. Generally there are adjectival forms which may be regarded as in some sense suppletive, which may be used in active, including causative, constructions:

2. Kofi anyin aye kese (Kofi perf+become perf+be large:
 Kofi has grown large)
 aduan papa ama Kofi anyin aye kese (Good food has
 made Kofi grow large)

IV.2.1f

- 1a. A: desc N_p
 b. wira no bon (The bush smells)

These verbs may appear in all of the active forms except the progressive, but do not appear in the continuative. They may be causativised:

2. owia no ama wira no abon (The sun has caused the bush
 to smell)

There are no underlying two-place structures which these verbs enter:¹

3. *owia no bon wira no.

1. None containing erg and nom NPs that is: cf. Chapter 6 for discussion of BON with the dat(ive).

IV.2.1g

- 1a. S: desc E N_c
 b. wote Twii anaa? (Do you understand Twii?)
 mennim no (I don't know him)

Verbs in this class only appear in the continuative form. They do not appear in one-place underlying constructions, though they may undergo object deletion:

2. menim (I know it)

They may not be causativised.

IV.2.1h

- 1a. A: desc E N_c
 b. onhu akyiri dee (He is short sighted)
 osuro aborofo (He is afraid of whitemen)

To some extent this structure may be thought of as being complementary to that illustrated in (h) above; and some of the lexemes that appear in this structure alone may be thought of as being suppletive to some appearing in (h) alone, cf. NIM - HU. There are some lexemes, like DO 'love' that may appear in both frames. Verbs that may appear in this frame alone do not appear in the continuative or progressive. Nor do they appear in one-place frames, though they may undergo object deletion

2. mensuro (I am not afraid of it)

They may be causativised:

3. n'ani ma mesuro no (His appearance makes me fear him)

IV.2.1i

- 1a. A: inch N_p
 b. Kofi rewu (Kofi is dying)

nkwan no repi (The soup is getting thicker)
 me sika resa (My money is running out)

There are a number of inchoative verbs, as illustrated, that have no two-place active ('ergative') counterparts.

Thus while these sentences may be causativised:

2. awo no ama Kofi awu (The cold has killed Kofi - lit. the cold has caused Kofi to die)

ode esiam bi rema nkwan no repi (She is thickening the soup with some flour - lit. she take flour cause soup to become thick)

mema me sika saye (I finished my money - lit. I caused my money to become exhausted)

there are no two-place sentences:

3. *awo no awu Kofi

etc.

IV.2.1j

1a. S: inch N_p

b. Kofi awu (Kofi is dead)

me sika no asa (My money is finished)

Inchoative verbs in the stative appear in the perfect alone.

IV.2.2 Some non-ergative verbs that appear in two or more transitivity frames.

As we have noted many verbal lexemes appear in more than one transitivity frame where the relation between the frames is not an ergative one. Many of the examples noted below have already been discussed: they are brought together here for reference purposes.

1a. A: ac E_a

b. A: ac E_a N_c

2a. Kofi reddidi (Kofi is eating)

b. Kofi redi n'awiaduane no (Kofi is eating his dinner)

This optionally transitive construction has been discussed in Chapter II.5a4.5a.

3a. A: desc E

b. A: desc E N_c

4a. mesuro (I am afraid (= in a state of fear))

b. mesuro no (I am afraid of him)

This construction is parallel to that in (1,2) except that the process class of the verb is different. We may also note the fact, discussed in III.3.2b that a sentence such as

5. meresuro no (I am becoming afraid of him)

is understood in an 'inchoative' and not a descriptive sense.

Some verbs of perception and emotion appear in both stative and active frames:

6a. S: desc E N_c

b. A: desc E N_c

7a. odo no (He loves her (always, continually))

b. odo no (He loves her (now and then))

(cf. Chr:102.6). It will be noted that verbs in this class are 'obligatorily transitive': this analysis perhaps needs some comment. Semantically there seems no reason to suppose that the subject may not be conceived as the 'initiator' of the 'state' described in the verb, though it can hardly also be considered as an 'actor'. It is interesting to note that Lyons, discussing similar verbs in English, comments on the syntactic similarity of such verbs to 'regular' transitive verbs: "It might be maintained that the grammatical form of an English sentence like I hear you or I see you (its parallelism with I hit you etc.) influences speakers of English to

think of hearing and seeing as activities initiated by the person 'doing' the hearing and seeing. Whether this is a correct account of perception, from a psychological or physiological point of view, is irrelevant. If the speaker of English (and of other languages in which verbs meaning 'hear' 'see' 'smell' etc., are syntactically parallel with 'notionally' transitive verbs like 'hit' or 'kill') tends to interpret perception as an activity which 'proceeds' from an 'actor' to a 'goal' this fact of itself would suggest that there is some semantic basis for the traditional notion of transitivity" (1968:351).¹

With respect to the stative/active distinction noted in (6,7) consider the following sentences:

- 8a. medo me yere (I+(cont)+love my wife: I love my wife)
 b. ná medo me nana (past I+(cont)+love my grandfather:
 I loved my grandfather - he is, perhaps, no
 longer alive)

which are stative, and compare them with these which are active:

- 9a. medó me yonko bere aa onha me (I+(hab)+love my neighbour
 time relative he+(hab)+neg+annoy me: I love my
 neighbour when he doesn't annoy me)

1. Of the verbs noted by Lyons it is interesting to note that in Twi TE 'hear' is a stative descriptive verb which is obligatorily transitive (cf. frame 6a); HU 'see' in the sense 'perceive' is active descriptive (cf. frame 6b) HWE 'see' in the sense 'look at' is active action (cf. frame 1b) HUA 'smell' in the sense 'sniff' is active action (cf. frame 1b) and BON 'smell' in the sense 'impinge upon the nostrils' is a dative verb if it is two-place. All the verbs with the exception of BON therefore are indeed transitive. The word order in the dative BON:

efun no bon me (The corpse smells (to me) = I smell the corpse)

where me follows the verb, may be compared with the word order in the transitive HUA:

okeraman no rehua efun no (The dog is sniffing the corpse)
 where okeraman no precedes the verb.

- b. ná metañ me yonko bere aa cha me (past I+(hab)+hate my neighbour time relative he+(hab)+annoy me:
I used to hate my neighbour when he annoyed me)
- c. medoo no yiye nanso wampe m'asem daa (I+love+pret him much but he+perf+neg+like my'matter ever: I loved him a lot, but he never liked me)

It may be observed that a sentence like:

10. medó me yere (I love my wife (from time to time))

would indicate less than complete accord between husband and wife: it is not, of course, ungrammatical!

Note also the remarks in Chapter III with respect to a sentence like:

11. meredo (I am falling in love)

There are, of course, other combinations of transitivity frames which have been mentioned before: they are summarised below, though this list does not pretend to be exhaustive:

- 12a. A: desc N_p
b. A: ac N_p
- 13a. aberewa no popo (The old woman has the shakes)
b. aberantee no pepopo (The young man is shivering)
- 14a. A: desc N_p
b. A: inch N_p
- 15a. me ba yare (My child is ill)
b. me ba reyare (My child is falling ill)
- 16a. S: desc N_p
b. A: inch N_p
- 17a. Kofi ware (Kofi is tall)
b. Kofi reware (Kofi is growing tall).

IV.2.3 Some ergative verbs

The ergative relationship has been described as involving a one place frame with a nom subject, and a two-

place frame, which will accept the same verbal lexeme, where the nom NP is now object and a 'new' erg subject is introduced. In terms of the transitivity frames discussed in this chapter this means that all ergative verbs are action verbs (since these are the only verbs we discuss here that may have an E_a subject). However there are five different types of intransitive frame corresponding in an ergative relationship with the transitive frame. These may be illustrated as follows:

- 1a. A: ac N_p
- b. A: ac E_a N_p
- 2a. frankaa no rehim (The flag is flying)
- b. aserafoo no rehim frankaa no (The soldier is waving the flag)
- 3a. A: inch N_p
- b. A: ac E_a N_p
- 4a. ogya no redum (The fire is going out)
- b. Kofi redum ogya no (Kofi is putting the fire out)
- 5a. S: inch N_p
- b. A: ac E_a N_p
- 6a. Kofi apira (Kofi is wounded)
- b. Kwaame apira Kofi (Kwaame has wounded Kofi)
- 7a. A: desc N_p
- b. A: ac E_a N_p
- 8a. sika bere (Gold is red)
- b. sikadwomfoo bi bere sika (A goldsmith reddens gold)
- 9a. S: desc N_p
- b. A: ac E_a N_p
- 10a. kanee no hyiren (The lamp is bright)
- b. Kofi rehyiren kanee no (Kofi is turning up the lamp)

Even from these examples it can be seen that the ergative relationship is not a simple and constant one: indeed the only

element of meaning in common between the examples cited appears to lie in common features that the two-place frames share (which is not surprising since they are all identical): these include the notions of 'agency' implicit in the characterisation of 'initiator and actor' (E_a) in a two place frame, the notion of 'passive object' (N_p) and the fact that the verbs are all action verbs. The relationship of the two place to the one place frame is far from constant: in (5-10) the relationship is between an action and a state (but note that state is not a unitary notion either - we might distinguish in the examples between 'resultant' (5a), 'inherent' (7a) and 'transient' (9a) states); in (1-4) the relationship is between an action and an action: and again between an on-going action (1a) (or perhaps even 'state of affairs') and a changing state of affairs (3a). The ergative relation then differs depending on the characteristics (syntactic and semantic) of the two relevant transitivity frames.

This, however, is not the only complication, since ergative verbal lexemes may also contract other types of semantic relationship with themselves in different transitivity frames. We have already discussed verbs like *HYIREN* briefly in Chapter II.4.5b, here we may note such cases as:

11a. A: desc N_p

b. ne ^sna woso (His hand shakes)

12a. A: ac N_p

b. aduaban no rewoso (The leaves are shaking)

13a. A: ac E_a N_p

b. mframa no rewoso aduaban no (The wind is shaking the leaves).

The ergative relationship appears to be that between (12) and (13), not (11) and (13).

The syntax of the one-place sentences does not differ from the syntax of other one-place sentences with action, descriptive etc. verbs discussed above. They may be causativised:

- 14a. mframa no rema frankaa no ahim (The wind is making
the flag fly)
b. nsuoto no rema ogya no adum (The rain is putting
the fire out)

but may not be agentivised:

- 15a. *aserafoo no de frankaa no rehim
b. *Kofi de ogya no adum

Similarly the syntax of the two-place verbs does not materially differ from that of verbs like BORO discussed in IV.2.16.

As has already been stated in Chapter II the one-place sentences are not considered to be derived from the two-place by a syntactic process, say of erg deletion; nor conversely are the two-place sentences derived from the one-place within the grammar. Ergativisation is a relationship between transitivity frames, though certain aspects of it may be reflected in the constituency structure.

There appear to be no good semantic reasons for supposing that 'agent deletion' or some similar process has applied to sentences like:

16. ogya no bedum (The fire will go out)
nku no renane (The butter is melting)
kuro no rehye (The town is burning)

and others like them. If it is the case that an 'agent of source' is presupposed in such cases, then presumably this is

also the case for such 'true' intransitives as WU 'die', HURU 'boil' or DERE 'blaze', which have no ergative counterparts. And indeed the case could equally be argued for many two-place sentences themselves back to the primum mobile. Furthermore there are often sense differences between the one and two place uses of individual lexemes such that the one-place form does not necessarily presuppose an 'initiator'.

Furthermore the syntactic evidence is equally compelling. An erg node introduced into the derivation would need to be specified as obligatorily deleted - i.e. we would need to invent a special kind of erg introduced only to be deleted. The 'transcendental erg' would also pose problems with respect to derivation (of a sort noted by Fodor, 1970). Thus, for example, consider sentences like:

17. Kofi ankasa buee spono no (Kofi himself opened the door)
 spono no ankasa bueye (The door opened by itself)

but not:

18. *Kofi buee spono no ankasa

or again:

19. Kofi ferasa aduru no maa me (Kofi mixed the medicine
 for me)

but not:

20. *aduru no ferasa maa me

even though both BUE and FERA are ergative verbs. Furthermore we would need to distinguish somehow between the 'transcendental erg' and the non-referring erg (which is discussed in more detail in IV.3.2 below).

In other words the transitivity frames for the one place verbs may control a different set of co-occurrence restrictions from those of the two-place frames. It therefore becomes a

prodigious and fruitless task to attempt to derive either form from the other within the syntax. Whether they are or are not semantically related is another matter altogether.

A further interesting point which we noted in connection with sentences like (11-13) is that many ergative verbs also contract relationships other than ergative. Here we may note a few examples. Thus, for example, consider sentences like:

- 21a. frankaa no rehim (The flag is waving)
 b. Kofi rehim frankaa no (Kofi is waving the flag)
 c. Kofi rehimhim (Kofi is staggering about)
- 22a. ahina no rebutu (The pot is falling over)
 b. Kofi rebutu ahina no (Kofi is upending the pot)
 c. Kofi rebutu (Kofi is curling up)

In these cases the syntax of the (c) sentences is like that of other E_a action intransitives discussed in IV.2.1a above, while the (a) and (b) sentences are in an ergative type of relationship. We have noted that object deletion is the norm for obligatory transitive verbs and for the two-place form of ergative verbs:

23. opono no na obueye (It was the door he opened)

But with verbs like HIM and BUTU object deletion is blocked,
thus:

24. ahina no na orebutu no (It is the pot he is upending)
*ahina no na orebutu.

Thus a conjoined sentence like:

25. ofaa ahina no na orebutu no (He took the pot and
upended it)

is acceptable, but a sentence like:

26. ofaa ahina no na orebutu

is anomalous, since it would mean something like 'he took the pot and curled up' if it were considered acceptable at all.

A further case may be exemplified by a verb like SCE 'destroy, corrupt'; consider these sentences:

- 27a. me ba no resee (My child is getting spoiled)
- b. me fie no resee (My house is falling down)
- c. Kofi resee me ba no (Kofi is corrupting my child)
- d. Kofi resee me fie no (Kofi is destroying my house)

In this case the (a,c) and (bd) sentences are in an ergative relationship: the situation is, however, complicated by the fact that whereas for the majority of ergative verbs the subject of the one-place sentence usually takes an inanimate NP, verbs like SCE may have animate one-place subjects. Note that in such cases again object deletion is again blocked:

- 28. me fie no na aressee no (It is my house that he is destroying)

Thus, once more we find in serial sentences pairs like:¹

- 29a. okoo Kumase kosee ho (He went to Kumase and destroyed it)
- b. okoo Kumase kosee^εye (He went to Kumase and got spoiled)

IV.3. Further aspects of the syntax of erg and nom NPs.

In Chapter II we discussed some syntactic correlates of erg and nom NPs - with respect to cleft and question sentences, imperatives and certain types of co-occurrence restriction. Here we examine some further restrictions on the NPs which realise the case feature bundles.

1. In fact the (a) sentence is ambiguous as between the reading given, where ho is the pronominalised form of the 'locative' noun Kumase, and another reading where ho is a place adverbial that is extra-nuclear: in this latter reading the meaning would be 'he went to Kumase and got spoiled there'.

IV.3.1 Word order

In non-emphatic sentences with the transitivity frames discussed in this chapter word order is fixed and may be summarised in the following informal rules:

1. If there is only one case feature bundle then this will precede the verb as subject

2. If two case feature bundles are generated, then the erg bundle will precede the verb as subject and the nom bundle follow the verb as object.

If the subject NP is a pronoun, then this will be realised as the bound form of the pronoun affixed to the verb word. Otherwise the subject NP is a separate word (or string of words). If the object NP is a pronoun then this will be realised as a disjunctive pronoun and form a separate word.

There is no pronominal concord on the verb word if the subject is not a pronoun.

Thus we will find sentences like:

- 3a. Kofi rekasa (Kofi is speaking)
- b. ogya no redum (The fire is going out)
- c. Kofi redum ogya no (Kofi is putting the fire out)
- d. ɔrekasa (He is speaking)
- e. ɛredum (It is going out)
- f. Kofi reboro no (Kofi is beating him)
- g. ɔrebro no (He is beating him)

But there are no sentences:

- 4. *rekasa Kofi
- *Kofi ogya no redum
- *ono rekasa
- *Kofi ɔrekasa

and so on.

Similarly, the sentences:

5a. Kofi reboro abofora no (Kofi is beating the boy)

b. abofora no reboro Kofi (The boy is beating Kofi)

are both grammatical, and both derive from the same underlying functional structure, but in (a) Kofi realises an underlying erg and in (b) abofora no realises the underlying erg. In the pair of sentences:

6a. Kofi redum ogya no (Kofi is putting the fire out)

b. *ogya no redum Kofi

(a) is grammatical since it derives from an underlying structure E_a Vb N_p and Kofi may be selected as the erg NP, since DUM requires an animate human erg NP. (b) is unacceptable since ogya no may not realise an erg NP in construction with DUM (see above), nor may the NPs be permuted in this case.¹

IV.3.2 Non-referring erg and nom.

We have already noted that some obligatorily transitive verbs may be associated with non-referring erg and nom expressions.

Non-referring erg is generally realised by the bound pronoun ye-:

1. yepam atadee ha (Dresses are sewn here)

yesua borofo wo Legon (English is studied at Legon)

Non-referring nom is generally realised by a noun of very general reference that satisfies the minimal selection

1. Permutation of NPs is not always impossible: cf. discussion of FURA in Chapter IV.

requirements of the verb in question; this is frequently adee 'thing, substance, object etc.':

2. Amma pam adee (Amma is sewing (sc. something))
Kofi sua adee (Kofi is studying (sc. things))

Non-referring erg and nom expressions may appear in the same sentence:

3. yepam adee ha (Sewing is done here)
yesua adee wo Legon (People study at Legon)

Since, by definition, non-referring erg and nom do not refer to anything specific they must be characterised as non-definite, unidentified, non-specific etc., and they cannot be quantified, numerated etc. The feature specification for these items must reflect these facts, and we have already taken account of this in our discussion of pronouns in Chapter I.4.5. Here we consider some further aspects of the syntax of such items.

IV.3.2a. Non-referring nom

From the above remarks it will be clear that sentences like

1. Amma repam adee bi (Amma is sewing something)
2. Amma repam adee nyinaa (Amma is sewing all the things)
3. Amma repam adee mmienue (Amma is sewing three things)

are acceptable in the sense quoted, where adee's function is quasi-pronominal (somewhat analogous to English 'one') but cannot be construed in the non-referring sense 'Amma is sewing'. Similarly, while a cleft like:

4. adee bi na Amma repam (It is something that Amma is sewing)

is acceptable,

5. *adee na Amma repam
is not.

Nor can non-referring nom expressions be pronominalised or deleted. Pronominalisation requires identity of reference, and since non-referring nom does not refer, it clearly cannot be pronominalised. And there is syntactic evidence to support this assertion. It appears that object deletion is dependent on pronominalisation: if this is the case, and if adee cannot be pronominalised, then clearly it cannot be deleted either. Furthermore the sentence:

7. Amma repam (Amma is sewing it)
can only have the interpretation given: it cannot have the sense 'Amma is sewing' (as in (2)). It therefore follows that (7) cannot be derived from an underlying structure containing a non-referring NP. Hence we suppose that the non-referring nom can neither be pronominalised nor deleted.

In all the examples so far examined of non-referring nom NPs, selectional restrictions of the verb in question would require an inanimate object. We have noted that adee 'thing substance, object etc.' is semantically the least specific noun that satisfies such selectional restrictions. If we now examine instances of verbs which would normally require an animate object, we find the noun onipa 'human being, person' rather than adee:

8. owo nka onipa kwa (A snake doesn't bite without reason)
aben tua onipa ano (The horn is put to the mouth)

To substitute adee for onipa would result in anomalous sentences:

9. ntetea ka nnipa (Ants bite (sc. people))
?ntetea ka adee

Similarly, with a verb so specific with respect to its object as NOA 'cook' (one only cooks things that are food)

10. Amma renoa adee (Amma is cooking)

is only marginally acceptable; more probably one would find:

11. Amma renoa aduane (Amma is cooking (food))

Or with KA 'speak etc.' we find:

12. oreka asem (He is speaking (a speech); he is telling a story etc.)

The exponent of the non-specific nom would thus appear to be the semantically least specific noun that can collocate with the particular verb in question: clearly therefore the more specific the collocational links between verb and nom NP, the semantically more specific the non-referring nom will be.

We may also note the non-referring nom in such expressions as:

13a. onoa aduane (She is a cook)

b. owia adee (He is a thief)

c. osua adee (He is a student)

d. afidie yi mia adee (This machine is a squeezer)

etc, and note that the many verbs that characteristically co-occur with non-referring nom expressions include the non-referring nom expression in the appropriate nominalisation:

14a. oduanenoafos (a cook)

b. adesua (learning)

c. adepam (sewing)

d. adehoro (washing)

e. adehu (eyesight)

It will have been observed that we have referred to non-referring nom and not a 'non-referring object': we would therefore expect to find some N_p intransitives that occur

with a non-referring subject expression, and this is indeed the case:

15. adee resa (It is getting dark: lit. things are becoming finished)
 adee akye (Day has broken: lit. things have become visible)

IV.3.2b. non-referring erg

Non-referring erg is generally realised by the pronoun ye-, which is identical in form to the '1st person plural pronoun' ye- 'we'. Like non-referring nom, ye as a non-referring erg is indefinite, unidentified, unspecific etc., and cannot be clefted, questioned etc. This is rather difficult to demonstrate syntactically since the pronoun ye- may be clefted, questioned etc., and is, by definition, definite, identified etc. Thus one can only rely on the contextual meaning of a given sentence:

- 1a. yekumm ne keraman no (We killed his dog; his dog was killed)
 b. yen na yekumm ne keraman no (It was we who killed his dog NOT his dog was killed by 'them')
 c. yen mu mmiensa na yekumm ne keraman no (It was three of us who killed his dog NOT it was three of 'them' who killed his dog).

The semantic function of non-referring ye- is similar to some uses of the English 'agentless passive' where the "active subject is unknown or cannot easily be stated" (Jespersen, 1924:167). In the case of obligatorily transitive verbs, like kum above, in a situation where the "agent is unknown or cannot easily be stated", there is, as we have noted, no intransitive form:

2. *ne keraman kumuye (?His dog was killed)

and the sense glossed must be rendered by the use of a non-

referring erg. Some further examples:

- 3a. ná yefere me Kwasi (I was called Kwasi)
- b. yewen me (I am being watched)
- c. yepiaa no (He was pushed)
- d. yede ntakera na yehu anomaa ('they'+take feathers and
'they'+(hab)+perceive bird: a bird is known by
its feathers)
- e. yesere no (He is being laughed at)
- f. yesuro me (I am feared)

Non-referring erg may also be used to make statements of general truth:

- 4a. yeka Twii ha (Twii is spoken here)
- b. yesa ha (Dancing goes on here, one dances here)
- c. yeton aduane ha (Food is sold here)

Various syntactic uses of the non-referring erg may be noted:

- 5a. Kofi kumm gyata no (Kofi kill+pret lion the: Kofi
killed the lion)
- b. yekumm gyata no ('they'+kill+pret lion the: the
lion was killed)
- c. yemaa Kofi kumm gyata no ('they'+cause' Kofi kill+
pret lion the: Kofi was made to kill the lion)
- d. Kofi maa yekumm gyata no (Kofi 'cause'+pret 'they'+
kill+pret lion the: Kofi had the lion killed).

With ergative verbs an even more complicated set of sentences can be attested:

- 6a. me hyete atete (my shirt perf+tear: my shirt is torn)
- b. matete me hyete (I+perf+tear my shirt: I have torn my
shirt)
- c. yeatete me hyete ('they'+perf+tear my shirt: my shirt
has been torn)
- d. Kofi ama me hyete atete (Kofi perf+'cause' my shirt
perf+tear: Kofi caused my shirt to be
torn (i.e. he was responsible)
- e. Kofi ama matete me hyete (Kofi perf+'cause' I+perf+
tear my shirt: Kofi has made me tear my shirt)
- f. Kofi ama yeatete me hyete (Kofi perf+'cause' 'they'+
perf+tear my shirt: Kofi had my shirt torn)
- g. yama Kofi atete me hyete ('they'+perf+'cause' Kofi
perf+tear my shirt: Kofi was made to tear my shirt)

IV.3.3 Constituency structure of erg and nom NPs.

Few restrictions are placed in the grammar on the constituency structure of erg and nom NPs. The most notable restrictions involve non-referring expressions (cf. IV.3.2 above) and reflexive NPs (cf. IV.3.4 below).

Generally speaking erg NPs are animate, and most of the examples quoted in this Chapter do, in fact, involve animate erg NPs. This does not however seem to be a necessary restriction, particularly with respect to those NPs that refer to 'natural forces':

- la. Kofi redum ogya no (Kofi is putting the fire out)
- b. nsuoto no redum ogya no (The rain is putting the fire out)
- c. mframa no redum ogya no (The wind is putting the fire out)

There are however some peculiarities about the syntax of inanimate NPs, particularly with respect to questions of ergativisation and causativisation: some of these have been explored in Chapter II.⁴5b.

Nom NPs are even less restricted in their constituency structure.¹ We may however note one peculiarity. In appropriate circumstances a place noun may be the head noun of a nom case feature bundle (for place nouns cf. Chapter I.4.2). This fact has some relevance for pronominalisation transformations. Consider the two nouns Kumase 'Kumase (a town)', a place noun, and opono 'table', a concrete noun. Since Kumase is a place noun it may realise a loc(ative) case feature bundle without an accompanying locative particle:

-
1. It may be noted that Fillmore characterises his Agentive case as that of "the typically animate perceived instigator of the action identified by the verb", and his Objective case as "the semantically most neutral case". (1968:24-25).

2. Kofi wə Kumase (Kofi is in Kumase).

On the other hand since opono is not a place noun it may not realise a loc case feature bundle without a locative particle:

- 3a. pensere no wə opono no so (The pencil is on the table)
 b. *pensere no wə opono no

(The constituency structure of locative expressions is discussed in detail in Chapter V). Now note that the loc NPs in (2) and (3) may be pronominalised with the pronoun ho 'there':

- 4a. Kofi wə ho (Kofi is there)
 b. pensere no wə ho (The pencil is there).

Consider now the following sentences:

- 5a. Kofi sɛɛ opono no (Kofi destroyed the table)
 b. Kofi sɛɛ Kumase (Kofi destroyed Kumase).

These sentences would typically pronominalise as:

- 6a. Kofi sɛɛ no (Kofi destroyed it (sc. the table))
 b. Kofi sɛɛ ho (Kofi destroyed it (sc. Kumase)).

It would seem that the most appropriate analysis for the sentences (5) and (6) would relate them to an underlying transitivity structure:

7. A: ac E_a N_p

(cf. discussion of SɛE in IV.2.3 above). Thus, for instance, both Kumase and opono no in (5) can correspond to questions and clefts of the sort illustrated in Chapter II.3(17)ff. as being typical of nom expressions. Note too that a sentence like:

8. Kofi sɛɛ opono no so (Kofi destroyed the top of the table)

is perfectly acceptable providing opono no so is interpreted as glossed: 'the top of the table': i.e. with eso 'top' as

the head noun of the NP, not as a locative particle (as in 3a). It would thus appear that a nom case feature bundle may be realised by a place noun: and that in this case the rules for pronominalisation would operate on the features of the noun rather than on the case specification of the NP in question.¹

IV.3.4 Reflexive NPs

It is supposed that a sentence like:

1. Kofi piraa ne ho (Kofi wounded himself)

is derived from an underlying structure that may be represented as:

2. Kofi₁ piraa Kofi₁

where the two NPs are co-referential, indicated by the identity of referential indices on the NPs in question.

In simple nuclei co-referential NPs must be reflexivised: otherwise a sentence like (2) would be understood as '(one) Kofi wounded (another) Kofi', where the two Kofis are not co-referential. The reflexive transformation must be considered as part of the general complex of pronominalisation transformations, since, in appropriate circumstances, an indefinite NP must be definitised before it can be reflexivised, and reflexive NPs are always understood as definite:

3. onipa bi piraa ne ho (A man wounded himself)

It is furthermore restricted to animate NPs, and it would appear that some verbs do not permit reflexivisation:

-
1. That this is not the case in all languages may be shown by comparing the sentences above with their English translation equivalents. Thus, in English, the glosses noted for (5) and (6) above are acceptable, but there is no sentence:

* Kofi destroyed there (sc. Kumase) (cf. 6b).

4. *osianee ne ho (*he followed himself).

It is assumed that such restrictions are semantic in nature and they are not further explored here.

There are a few verbs that generally require deletion of the reflexive object. Thus in the following sets of sentences the (a) sentence is non-reflexive; the (b) sentence is reflexive and the (c) sentence, while cognitively synonymous with the (b) sentence is, in its surface form 'intransitive'. It may be noted that while both the (b) and (c) sentences are acceptable, the (c) sentences are the preferred form (i.e. with deletion of the reflexive):

- 5a. Amma resera Akosua (Amma is pommading Akosua)
- b. Amma resera ne ho (Amma is pommading herself)
- c. Amma resera (Amma is pommading herself)
- 6a. Amma redware ne ba no (Amma is bathing her child)
- b. Amma redware ne ho (Amma is bathing herself)
- c. Amma redware (Amma is bathing herself)
- 7a. Kofi nyanee Kwaame (Kofi woke Kwaame)
- b. Kofi nyanee ne ho (Kofi woke himself)
- c. Kofi nyanee (Kofi woke)

Verbs such as these will need to be marked in the lexicon as optionally undergoing reflexive deletion, since the majority of verbs will not permit reflexive deletion. Thus the sentence:

8. Kofi piraye (Kofi got wounded)

(cf. (1) above) does not imply that Kofi wounded himself, which must be expressed by (1). With some verbal lexemes the distinction is important since the verb may have different senses in the transitive and intransitive. Thus:

- 9a. osakeraa ne ba no (She changed (the clothes of) her child)

b. ɔsakeraa ne ho (She changed (her own clothes))

Here, in the sense given, the reflexive is not deletable. There is however the intransitive sentence, derived from an underlying one-place transitivity frame:

10. ɔsakeraye (She changed)

but this does not imply that she changed her clothes, etc., but that she changed morally, for the better or worse, say: i.e. (9b) derived from an underlying two-place structure which will not permit reflexive deletion, while (10) derives from an underlying one-place structure with a different sense.

A slightly different situation may be observed in the following set of sentences:

11a. ɛredane ne ho (It is changing itself
It is turning round)

b. ɛredane (It is changing (itself)
NOT it is turning round)

c. ɛredane (ne ho) aye afofanto (It is changing into a
butterfly)

In the sense of 'change, transform' DANE will permit reflexive deletion: cf. (11b,c); in the sense of 'turn (round)' DANE will not permit object deletion (cf. (11a,b)). DANE, then, will need to be marked in the lexicon as permitting reflexive deletion in the sense 'change' but not in the sense 'turn round'.

It will be remarked that in all the above sentences it is the nom NP that is reflexivised: it appears to be a restriction on reflexivisation that only nom NPs may be reflexivised.

We may now briefly consider some sentences like:

12a. ne ho twa (he is quick)

b. ne ho adwo (he is calm)

c. ne ho popo (he has the shakes)

It does not seem to be profitable to derive such sentences by a process of reflexivisation. Not only are the conditions for reflexivisation as outlined above not realised in the underlying structure, but we also have sentences like:

13. Kofi ho twa (Kofi is quick)

Kofi ho adwo (Kofi is calm)

etc. The most satisfactory analysis of such sentences appears to be to consider them as further examples of range particles, as discussed in Chapter III.4.3. A sentence like (12a) will then have an underlying transitivity frame:

14. A: desc $N_{p,pt}(ho)$.

When discussing range particles in Chapter III we noted that in some constructions the presence or absence of the range particle is contrastive:

15. Kofi hwɛɛ sukuufoɔ no (Kofi looked at the school-children)

Kofi hwɛɛ sukuufoɔ no so (Kofi supervised the school-children)

So too we may observe that in some cases constructions with and without the ho are also contrastive:

16. obaa no ye du (The woman is heavy = unattractive)

obaa no ho ye du (The woman is (has become) pregnant)

and indeed we may observe that in such cases ho may contrast with other range particles:

17. obaa no mu ye du (The woman has gained weight).

We may note a further similarity, in that just as some range particles are optional:

18. orepaepae eboɔ no(mu) (He is splitting up the stones)

so too ho is sometimes optional:

19. abofoa no(ho) ye fe (The child is beautiful).¹

In sentences like (12), then, ho is treated as an optional, or obligatory, range particle.

IV.4.1 Agentive ergatives

We have already discussed some aspects of the syntax of agentive ergatives in Chapter II, with respect to sentences like:

- 1a. ohwetee aduaba no (he+scatter+pret seeds the: He scattered the seeds)
- b. ode aduaba no hweteye (he+take seeds the scatter+pret: He scattered the seeds)
- 2a. oduaa nhwiren no (he+plant+pret flowers the: He planted the flowers)
- b. ode nhwiren no duaye (he+take flowers the plant+pret: He planted the flowers)

It has already been noted that the underlying structure for such sentences is:

3. A: ac $E_{a(ag)} N_p$

and we have also noted that some verbs, like HWETE are 'ergative' and others, like DUA, are 'obligatorily transitive'. The agentive ergative is always associated with an N_p in its transitivity frame, and in the form of the sentence involving the auxiliary (b above) the N_p NP immediately follows the agentive verb. Agentive ergatives also occur with other transitivity frames, notably those involving dative and locative case feature bundles, of which more later. We have already noted that not all two-place erg and nom frames involve

1. The distinction drawn here is similar to that drawn by Ellis and Boadi (1969): 68-9 between 'contrastive' and 'predictable' ho. Examples (16,17,19) are taken from Ellis and Boadi, 1969:69.

agentive ergatives: thus there is no ergative counterpart to a sentence like:

4. okumm okeraman no (He killed the dog)
 *ode okeraman no kumye

In the sentences (1,2) the forms shown appear to be paraphrases of each other; agent deletion (as in the (a) forms) is therefore not restricted, except under conditions of pronominalisation and pronoun object deletion. If the pronoun object is deleted, then agent deletion may not apply:

5. ode hweteye (He scattered it)
 *chweteye

etc. Note that if the pronoun object is not deleted, as is the case with animate NPs, then agent deletion may or may not take place.

- 6a. ode won hintaye (He hid them)¹
 ohintaa won (He hid them)

-
1. We may thus note the distinction between the following: the (b) sentence is to be understood as involving the non-referring erg (cf. IV.3.2 above):

wode won ho hintaye (They hid themselves)
 yede won hintaye (They were hidden).

There is also the further sentence that is worth comment: ohintaye (He hid)

It seems best to regard this as deriving from a one place frame A: ac E^a rather than from a two place frame with 'reflexive deletion' (cf. IV.3.4 above). Its analysis is then comparable with that of other one place ergative sentences, and with verbs of motion etc. Note that if it is derived from reflexive deletion this transformation will have to be ordered after agent deletion since a sentence like:

ode hintaye (He hid it)
 is 'understood transitively', as glossed, and not as a deleted reflexive. Similarly, ohintaye is understood as 'he hid' and not 'transitively' 'he hid it'. The complete paradigm should then be:

ode mmofora no hintaye (He hid the children)
 ohintaa mmofora no (He hid the children)
 ode won hintaye (He hid them)
 ohintaa won (He hid them)
 ode ne ho hintaye (He hid himself)

[Contd.]

- b. ode ne ho hintaye (He hid himself)
 ohintaa ne ho (He hid himself).

This raises interesting questions about the ordering of the pronominalisation and agent deletion transformations. There are also other restrictions on agent deletion etc. which we discuss when we look once more at locative and dative expressions involving agentive ergatives.

There are other interesting questions that the agentive ergative raises, and these involve the extent to which the (a) and (b) forms of (1) are complete paraphrases. In Chapter II.4.5 we noted that there are some slight distinctions in sense between the use of the agentive and ergative forms in some verbs. The distinction appears to revolve around whether the form with the agentive necessarily involves the subject of the verb, as it were handling the object, or whether he is merely the agent or cause (or both) of the action of the verb. The distinction appears to be a hard one to draw in practice, and with many verbs, as for instance DUA in (2), the distinction appears to have vanished entirely. However, my informant tells me that she would draw the distinction in some cases. Thus, for example, in the pair of sentences:

- 7a. Kofi kyereɛ me mfonini bi (Kofi show+pret me picture a:
 Kofi showed me a picture)

Contd.]

- ohintaa ne ho (He hid himself)
 ode sika no hintaye (He hid the money)
 ohintaa sika no (He hid the money)
 ode hintaye (He hid it)
 ohintaye (He hid (sc. himself)).

The final sentence is, thus, considered to be derived from a one place construction.

- b. Kofi de mfonini bi kyereɛ me (Kofi take picture a
show+pret me: Kofi showed me a picture)

the (b) sentence is more likely to be used when Kofi has the picture in his hand, and the (a) sentence when the picture is, say, on the wall. However, under conditions of pronominalisation, the obligatory form for both cases is:

8. ɔde kyereɛ me (He showed it to me).

A similar distinction is apparently felt in the case of verbs like MA 'give', KYE 'present' (involving, as it were, direct and indirect giving etc.): unfortunately however the distinction only seems to hold up when a noun is involved (and not in fact always then since, with MA, HYE, there are ordering restrictions dependent on definiteness (cf. Chapter IV.4.1)) so it is difficult to know what to make of them. Since the distinction is so tenuous, and so clearly constrained by other syntactic features (definiteness, pronominalisation, pronoun deletion etc.) I shall assume here that the agentive ergative is derived as described. If further research should indicate that a real distinction is to be drawn, then, presumably, we might wish to suppose that agentivisation is a more thoroughly semantic process that is assumed here.

We may note, however, that there are some cases where the distinction is clear enough for us to be able to establish two transitivity frames for a given verb stem. Thus consider sentences like:

- 9a. osiee ne sika no (He hid his money)
b. ɔde ne sika no sieye (He hid his money)

10a. osiee efun no (He buried the corpse)
but not:

10b. ode efun no sieye

in the sense 'he buried the corpse': the sentence is acceptable (if somewhat anomalous) in the sense 'he hid the corpse' parallel with the sentences in (9). In such cases it is proposed that we should recognise two transitivity frames:

11. A: ac $E_a(ag)$ N_p

12. A: ac E_a N_p

The frame (11) corresponds to the sentences (9) where agent deletion is possible (and indeed to the 'anomalous' interpretation of (10)); the frame (12) corresponds to the sentence (10a) which has no agentive counterpart.

IV.4.2 Resultative objects

In a few points of syntax the resultative object is sufficiently different from other objects for it to be recognised by a distinct secondary case feature. On the other hand the resultative object bears certain distributional resemblances to the object of concern and is accordingly classified as a sub-type of the object of concern nom conc res ($N_{c,res}$). Christaller, it may be noted, considers the object of result as a sub-type of object: "transitive verbs require complements in the objective case, briefly called objects. The object is ... (b) the thing produced by the action - the resultative object" (200.1). Examples adduced by Christaller include:

1. otomfoo bo aso (The smith forges a hoe)
- onwene ntoma (He weaves cloth)
- osen akonnua (He carves chairs)
- asase ba aduane (The earth bears fruit).

Like nom conc, nom conc res does not appear in one-place sentences. Thus, while there are sentences like:

2. Kofi resi dan bi (Kofi is building a house)
 adwumafoo no retutu tokuro kasee bi (the workmen are
 digging a big hole)

there are no sentences:

3. *dan bi resi
 *tokuro kasee bi retutu

but note sentences with non-referring erg expressions:

4. yeresi dan no (The house is being built)
 yeretutu tokuro kasee bi (A big hole is being dug).

and the "indirect" causative:

5. Kofi maa yesii dan bi (Kofi had a house built).

Again like nom conc, some verbs that take a nom conc res are obligatorily transitive and others optionally transitive: compare

- 6a. Kofi si dan (Kofi builds houses, Kofi is a builder)
 b. Kofi siye (Kofi built it)

as an example of an obligatorily transitive verb, with

- 7a. adwumafoo no retutu (The workmen are digging)
 b. adwumafoo no retutu tokuro kasee bi (The workmen are
 digging a big hole).

Unlike nom conc however, there is no frame that does not involve an E_a case feature bundle (cf. examples of $E N_c$ in IV.1). This restriction is handled in the negative conditions, in ~~IV.5~~ below.

No restrictions are placed within the grammar on the constituent structure of resultative objects: there are, however, obviously, selectional restrictions between verbs and objects of result. There are some verbs, like SEN 'carve' and NWENE 'weave' that are generally only construed with a

resultative object. Others may be construed with either a resultative or a passive or other object (cf. Jespersen's remark: "Those grammarians who pay attention to this kind of object ... mention only such verbs as make produce, create, construct, etc., where it is obvious that the object must be an object of result, and ignore the more interesting fact that one and the same verb often takes both kinds of object without really changing its signification, though the relationship between the verb and its object is entirely different in the two cases" (1924:159)). For example:

- 8a. stomfoɔ bɔ asɔ (A smith forges a hoe)
- b. stomfoɔ bɔ dade (A smith hammers iron)
- c. Onyankopon bɔɔ ɔsoro ne asase (God created heaven and earth)
- d. obɔɔ ahina no (He broke the pot).

Resultative objects, like objects of concern, differ from passive objects in respect of the cleft and question sentences to which they may be related. Thus questions like:

- 9. edeen na ɔyɛɛ dan no (What did he do to the house?)
- eedeen na ɛyɛɛ dan no (What happened to the house?)

may be appropriately answered:

- 10. ɔsɛɛ no (He destroyed it)

but hardly:

- 11. ɔsiyɛ (He built it).

Conversely the question:

- 12. ɔyɛɛ den (What did he make?)

may be appropriately answered:

- 13. ɔsɪɪ dan bi (He built a house)

but not:

- 14. ɔsɛɛ dan bi (He destroyed a house).

IV.4.3 Co-ordinated and joint NPs and reciprocal verbs and pronouns

In this section we are concerned with the analysis of sentences with co-ordinated or plural NPs as subject:

- 1a. Kofi ne Kwaame reba (Kofi and Kwaame are coming)
- b. Kofi ne Kwaame se (Kofi and Kwaame are alike).

Grammarians working on a similar range of problems in English¹ have pointed out that sentences like (1a) may be related to a pair of simple sentences Kofi reba and Kwaame reba and may be paraphrased by the conjoined sentence Kofi reba na Kwaame nso reba 'Kofi is coming and Kwaame is coming too'. On the other hand sentences like (1b) cannot be related to a similar set of sentences since *Kofi se, *Kwaame se and *Kofi se na Kwaame nso se are all impossible.

Christaller distinguishes between the two types of sentence by terming sentences like (1a) 'accidental combinations' and sentences like (1b) 'essential combinations': "The combination is accidental, when the predicate is true of every single member. In this case two or more sentences are contracted into one"; "the combination is essential for a given sentence when the predicate referring to it could not properly be applied to a single member" (245).

Discussions of the subject with reference to English have polarised round two analyses: "phrasal conjunction", which supposes that conjoined NPs may be derived by a rule within the grammar which allows an NP in a simple sentence

1. For a review of work on co-ordination in English up to 1968, cf. Stockwell et al., 1968; cf. also McCawley, 1968, Dougherty 1970, 1971. For a discussion of similar problems in Twi see Boadi, 1966^a; Christaller 245.

to be rewritten as a series of conjoined NPs; and "derived conjunction" which supposes that conjoined NPs are derived by a process of reduction from conjoined sentences. Some discussions derive sentences like (1a,b) by different processes: (a) by derived conjunction and (b) by phrasal conjunction - a solution identical in spirit to Christaller's for Twi. Other discussions derive all types of conjunction from either phrasal or derived conjunction.

I shall make a distinction between accidental (e.g. 1a) and essential (e.g. 1b) combinations though the distinction drawn will be somewhat different from that in the literature reviewed in Stockwell (1968). In outline I shall propose that 'essential' combinations derive from an underlying structure where a given case feature bundle gains an additional feature (joint) which accounts for the essentially reciprocal nature of essential combinations. Accidental combinations do not involve this additional feature.

IV.4.3a. Co-ordinated NPs

Christaller suggests that 'accidental combinations' involve those cases where "the predicate is true of every single member. In this case two or more sentences are contracted into one". (245). This^{is}, essentially, the derived conjunction solution discussed above. Under such an interpretation sentences like:

1a. Kofi reko (Kofi is going)

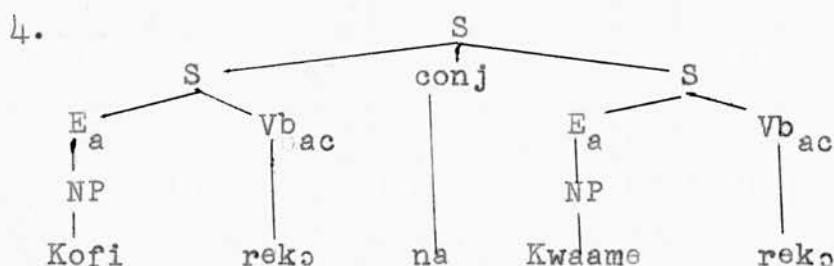
b. Kwaame reko (Kwaame is going)

may be conjoined to form a sentence like, say,:

2. Kofi rekɔ na Kwaame nso rekɔ (Kofi is going and Kwaame is going too)

and a sentence like:

3. Kofi ne Kwaame rekɔ (Kofi and Kwaame are going) would represent a conjunction reduction. The functional structure underlying (2,3) may then be schematically represented as (4).

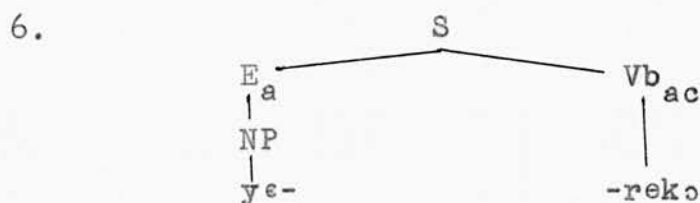


Such a derivation is perfectly plausible, and compatible with other parts of the description: e.g. serial sentences.

Consider, however, a sentence like:

5. yerekɔ (We are going)

There seems to be no reason to suppose that NPs may not be developed as plural pronouns. This being the case, then a sentence like (5) could derive from a simple sentence where the subject is a plural pronoun. Schematically the functional structure might be represented as (6)

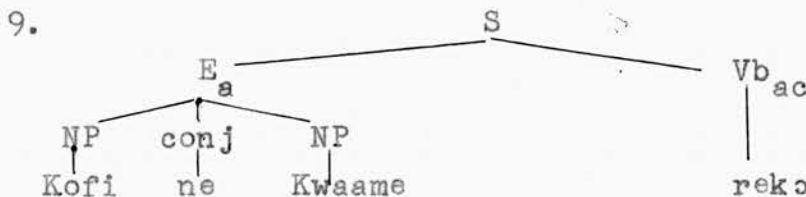
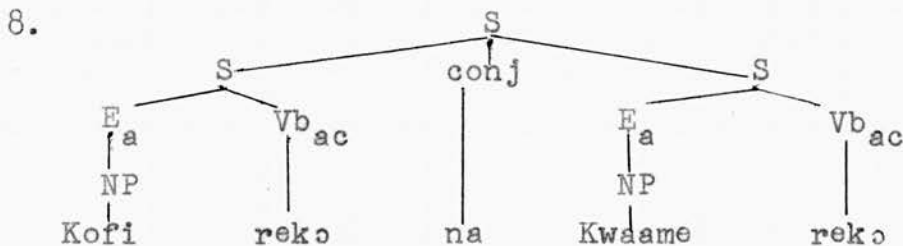


Let us suppose that ye- is interpreted as the non-inclusive first person plural pronoun (as it may be). It would then seem perfectly plausible to relate (5) to a series of sentences rather similar to (1-3):

- 7a. mereko (I am going)
 b. oreko (He is going)
 c. mereko na ono nso reko (I am going and he is going too)
 d. me ne no na yereko (He and I are going)
 e. yereko (We are going).

This, however, implies that, underlying (e) there is a conjoint structure, like (4). Note that (e) resembles (3) except that (3) contains two conjoined NPs and (e) a plural pronoun: there will however need to be a pronoun reduction operation to collapse sequences of pronouns like ono + me to ye in some pronominalisation situations.

It would seem then that a sentence like (7e) may derive from two sources, one involving a structure like (6) and the other a conjoint structure like (4). But if this is the case for (7e), then should it not also be the case for (3) - that it may derive from two different underlying sources, one of which might involve phrasal conjunction and the other derived as in (8) and (9).



Now, if we suppose that underlying structures reveal meaning relations that are often obscured in surface sentences, then we might enquire whether a sentence like (3) is ambiguous. In the chosen example any potential ambiguity is rather muddy:

but there are clearly potentialities for ambiguity in such sentences. Let us suppose the structure (9) implies that only a single 'act of coming' is involved, i.e. that Kofi and Kwaame are coming together: they are as it were co-actors in the act of coming. Let us further suppose that (8) either implies two separate acts of coming, or the same act of coming which is added as an afterthought to the initial statement. The interpretations offered are all possible interpretations for the sentences (2-3).

In the sentences so far discussed these distinctions may seem rather fine and it might be objected that we are dealing with cases which are 'unclear' rather than actually ambiguous. More complex sentences make the problem clearer. Consider first a pair of sentences like:

- 10a. Kwaame de buuku bi maa Amma (Kwaame take book a give+pret Amma: Kwaame gave Amma a book)
- b. Kofi de duku bi maa Akosua (Kofi take handkerchief a give+pret Akosua: Kofi gave Akosua a handkerchief)

These may be conjoined:

- 11. Kwaame de buuku bi maa Amma na Kofi de duku bi maa Akosua (Kwaame take book a give+pret Amma and Kofi take handkerchief a give+pret Akosua: Kwaame gave a book to Amma and Kofi a handkerchief to Akosua)

By a further reduction we have:

- 12. Kwaame ne Kofi de buuku bi ne duku bi maa Amma ne Akosua (Kwaame and Kofi take book a and handkerchief a give+pret Amma and Akosua: Kofi and Kwaame gave a book and a handkerchief to Amma and Akosua.)

For descriptive purposes the ambiguities can be resolved by allowing both phrasal and derived conjunction.

It is also necessary to allow for phrasal conjunction to cope with sentences like:

13. Kwaame ne Kofi de buuku bi maa Amma (Kwaame and Kofi take book a give+pret Amma: Kwaame and Kofi gave Amma a book)

Here, since a single book is involved, they have to be joint donors. There is a sentence:

14. Kofi de buuku bi maa Amma na Kwaame nso de bi maa no (Kofi take book a give+pret Amma and Kwaame also take one give+pret her: Kofi gave Amma a book and Kwaame gave her one too)

but this means that each of the boys gave her a book. There is no sentence:

15. *Kofi de buuku bi maa Amma na Kwaame nso de maa no (*Kofi take book a give+pret Amma and Kwaame also take (it) give+pret her: Kofi gave Amma a book and Kwaame gave it to her too).

For such sentences as (13) phrasal conjunction seems to be the natural solution.

This is not, however, to suggest that phrasal conjunction therefore should underlie all conjoint NPs. We have already noted with respect to (3) that a derivation involving successive reductions is not only congruent with other parts of the description but also relates together sentences which may be 'cognitively' synonymous, and in considering the ambiguities inherent in sentences like (12) it seems that derived conjunction is necessary to separate out the various possible meanings.

To return to our original sentences. It seems that the logic of the description forces us to allow 'accidental' combinations to derive from either phrasal or conjoined underlying structures (as in (8,9)) and that each may have different implications.

IV.4.3b. Joint NPs

In the preceding section it was suggested that sentences like:

1. Kofi ne Kwaame reba (Kofi and Kwaame are coming)
may be derived either from phrasal conjunction or derived (i.e. sentential) conjunction. This analysis will not suit all cases of verbs with conjoined surface NPs. Consider sentences like:

2. Kofi ne Kwaame rekasa (Kofi and Kwaame are speaking)
Kofi ne Kwaame regoro (Kofi and Kwaame are playing)
Kofi ne Kwaame reko (Kofi and Kwaame are fighting).

Like the sentence (1) these sentences are susceptible of an interpretation 'Kofi and Kwaame are speaking' either at the same time or in different places, and under such an interpretation may be paraphrased as:

3. Kofi rekasa na Kwaame nso rekasa (Kofi is talking and so is Kwaame)

and so on. However the sentences (2) are open to another interpretation under which Kofi and Kwaame are speaking together, playing together etc. Under this interpretation there is a notion of 'reciprocity' involved that is not involved in sentences like (1). And under the 'reciprocal' interpretation a paraphrase like (3) is inappropriate. Furthermore, as we have already noted in IV.2.1 above verbs like KASA 'speak', GORO 'play' are 'intransitive': i.e. there is no sentence:

4. *Kofi rekasa Kwaame¹

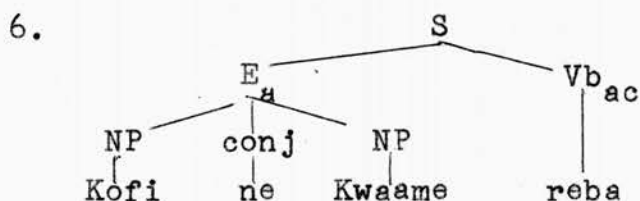
1. Except in the sense 'Kofi is giving Kwaame a talking to', which is not 'reciprocal'. We are not concerned with this sense here. Similarly we may have the sentence:
Kofi reko nkran 'Kofi is driving off the ants'
which is not reciprocal in the sense of 'Kofi and Kwaame are fighting each other'. We are not concerned here with this sense either.

Nor, we may note, is there a sentence involving the use of reciprocal pronouns:

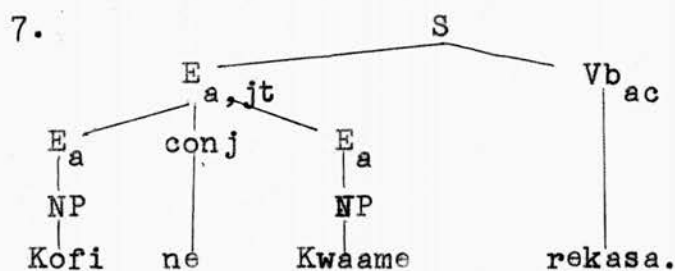
5. *Kofi ne Kwaame rekasa wonho

(reciprocal pronouns are discussed further in IV.4.3d below).

In order to capture the reciprocal sense of (2) we shall need an underlying structure distinct from the structures offered in the previous section for sentences like (1). I have noted above that derived conjunction is not a suitable source: yet we need some structure distinct from the phrasal conjunction also offered for (1). I propose to analyse sentences like (2) as deriving from an underlying structure in which the appropriate case feature bundle is marked with the sub-feature joint. A case feature bundle marked joint will then be developed into two further case feature bundles identical in specification to the dominating case feature bundle except that the daughter bundles will have no specification joint. Thus we may compare the underlying structure (6)



as proposed in the previous section, and the structure (7)



The semantic interpretation of joint case feature bundles will indicate that joint NPs are mutually and reciprocally

involved in the action of the verb.

Verbs like KASA 'speak' will then appear in at least the following frames:

- 8a. A: ac E_a
 b. A: ac $E_{a,jt}$

It is in the (b) frame that they have the reciprocal interpretation. Note, of course, that verbs like BA 'come' while they may appear in the (a) frame, do not appear in the (b) frame.

As a further example consider the following sentences:

- 9a. Kofi di dwa (DI DWA 'trade': Kofi (hab)+trade:
 Kofi is a trader)
 b. Kofi ne Kwaame di dwa (Kofi and Kwaame (hab)+trade:
 Kofi and Kwaame are traders OR Kofi and
 Kwaame trade with each other)
 c. Kofi di dwa na Kwaame nso di dwa (Kofi is a trader
 and so is Kwaame)
 d. Kofi di Kwaame dwa (Kofi (hab)+trade Kwaame: Kofi
 trades on Kwaame's behalf)
 e. Kofi di dwa ma Kwaame (Kofi (hab)+trade (hab)+give
 Kwaame: Kofi trades on Kwaame's behalf)

DI DWA 'trade' is a complex verbal lexeme in the sense established in Chapter III.4.2, where DWA is a range nominal. (9a) therefore derives from an underlying:

10. A: ac E_a .

(9b) under the interpretation 'Kofi and Kwaame are traders' is an 'accidental' combination deriving from conjunction; but under the reciprocal interpretation 'Kofi and Kwaame trade with each other' it derives from an underlying structure with a joint case feature bundle:

11. A: ac $E_{a,jt}$

As with verbs like KASA, it is only under the conjunction interpretation that (9c) may be considered as a paraphrase

of (9b): it is not a paraphrase of the joint interpretation. In (9d,e) Kwaame is considered to realise an underlying allative dative case feature bundle: (for further details cf. Chapter VI below):

12. A: E_a Vb_{ac} D_{al}

Neither (9d,e) is a paraphrase of (9b).

Verbs like KASA and DI DWA do not obligatorily take joint case feature bundles. There are however verbs that, in particular senses, require joint case feature bundles:

- 13a. Kofi ne Kwaame abo mu (BO MU 'reconcile': Kofi and Kwaame are reconciled)
 b. me ne no anya (NYA 'quarrel': He and I have got into a quarrel)
 c. me ne no hyehye se ... (HYEHYE 'agree': he and I agree that ...)
 d. Kofi ne Kwaame sene so (SENE SO 'be-on-good-terms': Kofi and Kwaame are on good terms)

It may be noted that the lexemes involved may have different senses in other transitivity frames not involving joint NPs. There are no sentences (at least in the sense intended):

14. *m'anya
 *Kofi abo mu

and there are no two place sentences (again in the sense intended)

15. *Kofi abo Kwaame mu
 *m'anya no

Nor are there reciprocal sentences:

16. *me ne no anya yenho

~~Further examples of verbs that may take joint case feature bundles are noted in~~

IV.4.3c Reciprocal verbs

In the previous section it was proposed that the reciprocal sense of verbs like KASA (Kofi ne Kwaame rekasa 'Kofi and Kwaame are talking together') should be handled by marking one case feature bundle as joint. The verbs in question were not however described as 'reciprocal verbs'. Now consider the following sentences:

- 1a. Koforidua ben Efiduase (Koforidua and Efiduase
- b. Efiduase ben Koforidua are near each other).
- c. Koforidua ne Efiduase ben

In the sense intended these sentences are paraphrases of each other. It will however be observed that verbs like BEN differ from verbs like KASA in that they have the two place forms (1a,b) in addition to the conjoined form (1c). In addition there is no sentence

- 2. *Koforidua ben:

i.e. such verbs require two NPs. They differ from 'transitive' verbs in that the sentences (1) are paraphrases of each other, in the sense intended, which is not the case with transitive verbs: i.e.

- 3a. Kofi kumm Kwaame (Kofi killed Kwaame)
- b. Kwaame kumm Kofi (Kwaame killed Kofi)

are not paraphrases of each other, and the sentence:

- 4. *Kofi ne Kwaame kumiye

is ungrammatical. They also differ from certain dative verbs where the two NPs are reversible round the verb: in that, whereas the sentences:

- 5a. Kofi fura ntoma (Kofi¹ wearing cloth)
- b. ntoma fura Kofi (Kofi² wearing cloth)

are paraphrases of each other, there is no sentence:

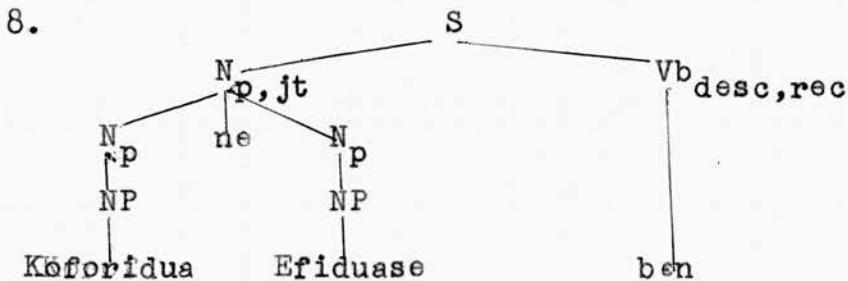
6. *Kofi ne ntoma fura

(verbs like FURA are discussed further in Chapter VI below).

I propose that the reciprocal notion associated with verbs like BEN is handled by deriving the conjoined NPs from a joint case feature bundle, as with KASA. The particular syntax of such verbs will then be handled by a further feature 'reciprocal', rec, on the process type of the verb. Thus the underlying transitivity structure of the sentences (1) is:

7. S: desc,rec N_{p,jt}

which we may represent as the derived structure:



A reciprocal extraposition transformation will then, optionally, move one NP to the position after the verb in question.

This, however, is not the whole of the story since BEN, like many other verbs, may appear in more than one transitivity frame. First note that in the sentences (1) the NPs in question are place nouns, and that in the sense intended they realise N_p case feature bundles (cf. discussion in IV.3.3. above). Other sentences, comparable to (1), where the NPs involved are unambiguously N_p are:

- 9a. akonnua no ben opono no (the table and the chair
 b. opono no ben akonnua no are near each other).
 c. akonnua no ne opono no ben

Note also that in the sentences (1,9) BEN is a stative verb.

Next we may observe that BEN may enter other transitivity frames:

10a. Kofi reben akonnua no ho (Kofi is drawing near to the chair)

b. Kofi reben Koforidua (Kofi is nearing Koforidua)

11a. spono no ben akonnua no ho (the table is near the ~~table~~ chair)

b. dua no ben ofie no ho. (the tree is near the house)

In the sentences (10) we have a transitivity structure:

12. A: ac, mot E_a L_{pos}

Here BEN is a verb of motion with a locative complement (cf. discussion in Chapter V below). L_{pos} is realised by a locative expression, either NP + locative particle (akonnua no + ho) or a place noun (Koforidua). Note that there are no sentences comparable to those illustrated in (9):

13a. *Kofi ne akonnua no ho reben

b. *Koforidua reben Kofi

and that BEN here is active, not, as in (1,9), stative.

In the sentences (11) we have a transitivity structure:

14. S: desc N_p L_{pos}

Here BEN is again stative, as in (1,9); but unlike the reciprocal BEN, this BEN takes a positional locative:

spono no + ho etc. Note too that the sentences:

15. *akonnua no ne spono no ho ben

16. *spono no ho ben akonnua no

are ungrammatical: i.e. in this case the constituents may not be reversed around the verb. Now, since place nouns may realise loc case feature bundles without additional locative particles, the sentences (1a,b) could, in fact, derive from a underlying structure (14), as well as from the structure (7). In this case we would have to gloss them 'Koforidua is near

(to) Efiduase' etc., and furthermore we would note that (1a,b) are not in a strict sense then paraphrases, and (1c) could not derive from the structure (14) because that is not possible - cf. the ungrammaticality of (15).

The distinction drawn between the functional frames (14) and (7) rests on the fact that in the case of the locative frame (14) the position of some object is described with respect to some other object the location of which is presumed known; whereas in the reciprocal frame (7) two objects are merely described as being near to each other, their actual location is not at issue. That this is a relevant distinction may be seen by comparing the sentences (9) and (11) and considering the different questions that may be related to each of the relevant transitivity frames. Thus taking the two sentences:

17. *opono no ben akonnua no* (The table and the chair are near each other = S: desc,rec N_p ,jt = (9b))

18. *opono no ben akonnua no ho* (the table is near the chair = S: desc N_p L_{pos} = (11a))

we will find the questions:

19. *edeen na eben opono no?* (what 'it+is' it+(cont)+near table the: what is near the table?)

20a. *shefa na opono no ben?* (where 'it+is' table the (cont) +near: what is the table near?)

b. *edeen na opono no ben ho?* (what 'it+is' table the (cont)+near exterior: what is the table near?)

c. *edeen ho na opono no ben?* (what exterior 'it+is' table the (cont)+ben: what is the table near?)

(17) and (19), and (18) and (20) may be related to each other. Note the locative question word (*shefa* 'where') in (20a) and the locative particles in (20b,c), and their absence in (19).

The analytical problems presented by BEN may be further

illustrated in other reciprocal verbs. Consider the sentences:

- 21a. Kofi waree Amma
- b. Amma waree Kofi (Kofi and Amma married)
- c. Kofi ne Amma wareye

Since if A marries B, then B must clearly also marry A it would seem that WARE may be regarded as a reciprocal verb, and the paradigm above is similar to that for BEN illustrated in (1). Again we may consider the different orderings in (a,b,c) as being dictated by considerations of topicalisation. Now, however, consider the sentences:

- 22a. Kofi reware (Kofi is getting married)
- b. Kofi ne Kwaame reware (Kofi and Kwaame are getting married).

First consider the (b) sentence: clearly since Kofi and Kwaame are both men's names this sentence is not susceptible to a reciprocal interpretation. Thus, as we would expect, there is no sentence:

- 23. *Kofi reware Kwaame.

As with the sentences discussed in IV.4.3a above (22b) is derived either from sentential conjunction, where it may be paraphrased as:

- 24. Kofi reware na Kwaame nso reware (Kofi is getting married and so is Kwaame)

or by phrasal conjunction. But NOT from a joint case feature bundle. The (a) sentence, and indeed each of the sentential constituents of the (b) sentence if it is derived from sentential conjunction, is apparently a simple one-place sentence similar to those involving verbs like DI 'eat', PIRA 'wound' etc. discussed in IV.2.1. i.e. (22a) derives from a transitivity structure:

25. A: ac E_a

Now consider the following sentences:

26a. Kofi faa Amma waree no (Kofi take+pret Amma marry+pret her: Kofi married Amma by force)

b. Kofi maa Amma waree no (Kofi 'cause'+pret Amma marry+pret him: Kofi made Amma marry him)

(26a) may be analysed as a serial construction derived from the underlying sentences:

27a. Kofi faa Amma (Kofi took Amma)

b. Kofi waree Amma (Kofi married Amma)

conjoined according to the rules outlined in Chapter II.3.1: the subject of the second verb (Kofi) is deleted, and the object of the second verb (Amma) is pronominalised. (26b) may be analysed as a causative construction deriving from a structure we may represent as

28. Kofi maa (Amma waree Kofi)

where the object of the second verb (Kofi) is pronominalised - the distinction between the pronominalisation in (27) and (28) being reflected in the glosses to (26). What now of the status of the sentence (27b) and the constituent sentence Amma waree Kofi of (28)? It will be clear from the glosses of (26) that these constituents cannot be understood, except perhaps in the legalist sense, as reciprocal. The fact that they are not reciprocal is borne out by the fact that the usual transformations cannot be operated on them. Thus there are no sentences:

29. *Kofi faa Amma ne no wareye

*Kofi maa owaree Amma¹

1. Except in the sense 'Kofi made him marry Amma', 'Kofi made Amma and he marry' etc., where the pronoun 'he' is not co-referential with Kofi. But this is not the point at issue here.

*Kofi maa Amma ne no wareye

*Kofi maa one Amma wareye

Thus we are forced to the conclusion that in addition to the reciprocal sense of WARE, there is a transitive sense which we may analyse as deriving from the underlying transitivity frame:

30. A: ac E_a N_p

Further evidence of this fact may be found with the behaviour of WARE with instrumental adverbials. Thus consider the sentences:

- 31a. Kofi waree obaa yi chye so (Kofi marry+pret girl this force top: Kofi married this girl by force)
- b. Kofi de chye waree obaa yi (Kofi take force marry+pret girl this: Kofi married ^{with} girl by force)
- c. Kofi waree Amma nsi so (Kofi marry+pret Amma vows top: Kofi married Amma with vows)
- d. Kofi de nsi waree Amma (Kofi take vows marry+pret Amma: Kofi married Amma with vows)
- e. *Kofi de chye ne Amma wareye (*Kofi take force and Amma marry+pret)
- f. *Kofi de nsi ne Amma wareye (*Kofi take vows and Amma marry+pret)
- g. Kofi ne Amma de nsi wareye (Kofi and Amma take vows marry+pret: Kofi and Amma married with vows)

The instrumental adverbial may be either postposed (chye so etc.) or introduced with the auxiliary de after the agent noun. If we assume that (a-d) are derived from a transitive underlying structure then we account for their grammaticality. (e,f) are ungrammatical under the reciprocal interpretation, since here it would seem inappropriate for them both to be married but only one to be married with vows. (g) on the other hand may be grammatical under the interpretation that the adverbial is dominated by the joint NP which also dominates the two marriage partners: i.e. they were both

married to each other with vows. Owing to the complex possibilities for the underlying structures the sentences (31) may in fact also be derived from other underlying structures than those proposed in the discussion above. The reader is invited to explore the possibilities.¹

Finally we may consider the sentence:

32. Kofi ne Amma waree wonho (Kofi and Amma married each other)

Reciprocal pronouns are considered in further detail in the following section. Here it will be sufficient to say that this sentence is considered as deriving from an underlying structure consisting of the conjunction of two sentences, or from a structure involving the transitive sense of WARE where each NP is rewritten as NP conj NP: i.e. not from an underlying reciprocal conjunction. This is because the reciprocal pronoun is considered to be undeletable, for reasons which are explained in the following section. The alternative would be to consider the reciprocal pronoun to be deletable (and thus derive reciprocal constructions from a deletion of the reciprocal pronoun): this alternative is rejected since it turns out that the only class of verbs to which this transformation applies is the reciprocal verbs, hence it would be necessary to mark reciprocal verbs as such anyway. Since we need the notation joint to deal with verbs like KASA anyway, it seems less costly to make use of this notation in the case of reciprocal verbs too.

Let us at this point pause to summarise our discussion.

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1. In passing we may observe that whereas the sentence 26a is perfectly grammatical, there is no sentence:

*Kofi de Amma wareye.

A further small piece of evidence against deriving agentive constructions as reduced fa constructions (cf. discussion in Chapter II.3.1).

Both BEN and WARE are reciprocal verbs deriving from a one-place underlying structure, which is, in the relevant outline, of the form:

33.rec C_{jt} ...

In addition, for each verb, there is a non-reciprocal transitivity frame. BEN has the locative frames:

34a. S: desc N_p L_{pos} = (14)

b. A: ac,mot E_a L_{pos} = (12)

and WARE the transitive frame:

35. A: ac E_a N_p = (30).

With this distinction in mind consider the following sentences:

- 36a. Kofi kyiaa Kwaame (Kofi and Kwaame greeted each other, exchanged greetings etc.)
 b. Kwaame kyiaa Kofi
 c. Kofi ne Kwaame kyiaa

As before these sentences may, in some situation, be paraphrases of each other. In this case they derive from an underlying structure of the form (33). Consider now the situation where I enter someone's house. I might greet the householder:

37. me kyia wo (I greet you).

In this context the sentence is clearly understood transitively: it is 'me' greeting 'you', and, in this context, the sentences:

38a. wo kyia me (you greet me)

b. me ne wo kyia (you and I greet each other)

would be unacceptable. A third party reporting the above incident might reasonably report:

39. okyiaa no (He greeted him).

Say, however, that the third party wished to report the

entire ceremony of greeting where 'I' greet the householder ('you') and he returns my greeting. The third party might now describe the situation as:

- 40a. Kwesi ne Kwaame kyiaɛ
 - b. Kwesi kyiaa Kwaame
 - c. Kwaame kyiaa Kwesi
- (Kwesi and Kwaame greeted)

In other words KYIA, like WARE or BEN, is capable of either a reciprocal or transitive interpretation. The choice of the one or the other would be dependent on the situation in which the verb was used, and a given sentence might be structurally ambiguous.

It will be clear that the argument here has been to the effect that reciprocal verbs derive from underlying structures which are one-place and contain a joint case feature bundle: it is in this sense that they are understood as reciprocal. For most verbs there is also a non-reciprocal sense in which sentences derive from an underlying two-place structure: in some cases, as with BEN, these can be seen to be formally different (in that the non-reciprocal sense involves a locative) in others the formal distinction lies rather in co-occurrence restrictions or restrictions of other kinds. It thus comes about that many simple sentences are formally ambiguous in that they derive from two or more underlying structures, for example:

- 41. Koforidua ben Efiduase
- (Koforidua and Efiduase are near)
(Koforidua is near Efiduase).

This sort of ambiguity, however, is not of a particularly significant kind: indeed it might more appropriately be termed 'vagueness' since in most contexts, either the context itself will determine the interpretation, or the two, or more,

senses are so near to each other that it hardly matters. Indeed we might go so far as to say that this accounts for the fact that one might think such sentences 'vague' rather than actually ambiguous.

IV.4.3d Reciprocal pronouns

In IV.3.4 above it was proposed that sentences with reflexive pronouns:

1. Kofi piraa ne ho (Kofi wounded himself)

are derived from sentences with co-referential NPs, which we represented as:

2. Kofi₁ piraa Kofi₁.

Plural reflexive sentences:

3. Kofi ne Kwaame piraa won ho (Kofi and Kwaame wounded themselves)

are presumably derived through a process of derived conjunction:

4. Kofi piraa ne ho na Kwaame nso piraa ne ho (Kofi wounded himself, and Kwaame did too).

Now we observe that (3) is also interpretable as 'Kofi and Kwaame wounded each other': i.e. as a reciprocal. Here the process of derivation that would appear most plausible is, schematically:

- 5a. Kofi₁ piraa Kwaame₂ na Kwaame₂ piraa Kofi₁

- b. Kofi₁ ne Kwaame₂ piraa Kwaame₂ ne Kofi₁

i.e. a solution involving derived conjunction: though in line with our previous discussion there seems no reason to suppose that such a sentence might not equally be derived from phrasal conjunction.

It will be observed from this brief account that while sentences like (3) do have a reciprocal interpretation this interpretation must derive from conjunction and not from a

joint feature in the underlying transitivity frame as is the case with verbs like KASA and KO discussed earlier. Note, for example, that a sentence like:

6. Kofi ne Kwaame piraye (Kofi and Kwaame got wounded)
is perfectly acceptable, but is not interpreted reciprocally. It is assumed therefore that reciprocal pronouns depend like reflexive pronouns on the referential identity of the NPs selected in the relevant structure, not on any feature of the transitivity frame. Thus, for example, we have already noted that a sentence like:

7. Kofi ne Kwaame koye (Kofi and Kwaame fought)
has a reciprocal interpretation (= fought each other) which can be attributed to an underlying joint feature (whereas (6) does not) and that (3) is grammatical and has a reciprocal interpretation, whereas:

8a. *Kofi ne Kwaame koo won ho

b. *Kofi koo Kwaame

etc., are ungrammatical.

What then of sentences involving reciprocal verbs like:

9a. Kofi ne Kwaame se won ho (Kofi and Kwaame resemble
each other)

b. wokyiaa won ho (They greeted each other)

Note first that there is no sensible reflexive interpretation to such sentences, and this may be accounted for by the fact that there is equally no sensible reflexive interpretation for sentences like:

10. *Kofi se ne ho (*Kofi resembles himself)

*Kofi kyiaa ne ho (Kofi greeted himself)

Note also that it is perfectly acceptable to have sentences like:

11. Kofi ne Kwaame kyiaa Asare ne Yao (Kofi and Kwaame greeted Asare and Yao)

Such sentences seem to be derived from the 'transitive' sense of verbs like KYIA discussed in IV.4.3c above, and it would seem appropriate to derive a sentence like (9b) from a similar underlying structure with referential identity between the NPs in question. The derivation of a sentence like:

12. Kofi ne Kwaame kyiaa (Kofi and Kwaame greeted each other)

has already been discussed: it derives from an underlying joint case feature bundle. There seems no good reason for supposing that it should also be derived from what one might call 'reciprocal pronoun deletion', since this would then be an operation to be carried out on 'reciprocal verbs' alone, and would duplicate the derivation of a sentence like (12) from a joint structure, which is motivated for other reasons. In other words to add such a rule to the grammar would complicate the syntax with no corresponding advantage. The implication of this is that the reciprocal pronoun is regarded as undeletable: we may thus compare the deletable reflexive and the undeletable reciprocal pronouns in sentences like:

- 13a. Amma dwaree ne ho (Amma washed herself)

- b. Amma dwareye (Amma washed)

14. Akosua ne Amma dwaree won ho (Amma and Akosua washed themselves; Amma and Akosua washed each other)

15. Amma ne Akosua dwareye (Amma and Akosua washed themselves)

Sentences like (13) were discussed in IV.3.4 above. (14) is, as noted, ambiguous as between a reading involving the

reflexive and another involving the reciprocal pronoun. (15) however is only understood reflexively: it has no reciprocal interpretation 'Amma and Akosua washed each other', which one might expect if reciprocal pronoun deletion were to apply here.

CHAPTER FIVE: LOCATIVE

V.1 Introduction

The primary distinction drawn among locative case feature bundles is between 'positional', L_{pos} , and 'directional', L_{dir} , locatives.

Broadly speaking, the positional locative may be said to indicate "the location or spatial orientation of the state or action described by the verb" (Fillmore, 1968:25), as in the underlined constituents of the following sentences:

- 1a. adaka no si apono no so (box the (cont)+stand table the on: The box is standing on the table)
- b. Kofi de adaka no sii apono no so (Kofi take box the stand+pret table the on: Kofi stood the box on the table)
- c. Kofi te Koforidua (Kofi (cont)+live Koforidua: Kofi lives in Koforidua)
- d. Kofi te Ow. Debrah nkyen (Kofi (cont)+live Mr. Debrah side: Kofi lives with Mr. Debrah)

In such cases the locative expression corresponds, in general, to the traditional 'locative complement' (cf. Chr:207). With certain verbs of motion the positional locative indicates the goal etc. of the motion in question:

- 2a. mereko Efiduase (I+prog+go Efiduase: I'am going to Efiduase)
- b. fa nifa ((opt)+take left: Go left)

It will be noted that the positional locative is realised by a place noun (as in 1c, 2a), or by a locative expression consisting of an NP in construction with a locative particle (as in apono no + so 'the table' + 'on' in 1a). Constituency structure is discussed in V.4.2 below.

The directional locative is realised by a directional verb in series with the main verb and, generally, following it,

followed by a positional locative (which is regarded as the 'complement' of the directional verb) which indicates the point towards which (through which, past which etc.) the movement is directed. Directional locative expressions are underlined in the following examples:

- 3a. Kofi dware koo mpoano (Kofi swim+pret go+pret shore:
Kofi swam to the shore)
- b. Kofi dware twaa asubonten no mu (Kofi swim+pret cross+
pret river the in: Kofi swam across the river)
- c. Kofi dware firii mpoano (Kofi swim+pret come-from+pret
shore: Kofi swam away from the shore)
- d. Kofi dware faa twene no ase (Kofi swim+pret take+pret
bridge the under: Kofi swam under the bridge)
- etc.

Some verbs are found with either a directional or a positional locative. Thus, for example, compare the following pairs of sentences:

- 5a. Kofi dwaree asubonten no mu (Kofi swim+pret river the
in: Kofi swam in the river)
- b. Kofi dware twaa asubontene no mu (Kofi swim+pret cross+
pret river the in: Kofi swam across the
river)
- 6a. Kofi hurihurii opono no so (Kofi red+jump+pret table
the on: Kofi jumped on the table - i.e.
up and down on the table)
- b. Kofi huri sii opono no so (Kofi jump+pret stand+pret
table the on: Kofi jumped onto the table)

The basic aspectual distinction between stative and active sentences and the process types descriptive, inchoative and descriptive are relevant to the subclassification of locative transitivity frames. In Chapter IV we discussed a number of frames involving erg and nom case feature bundles in construction with various process and aspect types, and the rules needed to specify just this set of frames. With the exception of frames involving N_c case feature bundles

these frames can also be found in construction with positional locatives, and a subset of them with directional locatives. The negative condition for N_c case feature bundles has already been framed so as to exclude locative frames.. In the sections which immediately follow we exemplify these frames and discuss some of the relationships (ergativisation, agentivisation etc.) that hold between various frames.

V.2 The Positional Locative

First consider the sentences:

- 1a. kanea no si ɔpono no so (lamp the (cont)+stand table
the on: The lamp is standing on the table)
- b. Kofi de kanea no sii ɔpono no so (Kofi take lamp the
stand+pret table the on: Kofi stood the
lamp on the table)

This pair of sentences has been discussed at various points already in this text (cf. II.3 (50ff); II.31.(12ff)). For our present purposes we note that the (a) sentence is stative and the (b) sentence active; that the verb involved is classified as an action verb; that the locative constituent is obligatory; that the relationship between the (a) and (b) sentences is one of agentivisation and that the agentive auxiliary is not subject here to deletion; that the word order given is the only possible word order in simple sentences. From these remarks and previous characterisations of erg and nom we may say that the underlying functional specification for such sentences is:

- 2a. S: ac N_p L_{pos}
- b. A: ac $E_{a,ag}$ N_p L_{pos}

Furthermore this characterisation allows us to account for the

impossibility of sentences like:

- 3a. *Kofi de kanea no sɪ ɔpono no so (continuative verb form cannot appear in Active sentence)
- b. *kanea no sɪ (locative complement is obligatory)
- c. *Kofi de kanea no siye (locative complement is obligatory)
- d. *Kofi sii kanea no ɔpono no so (deletion of the agentive auxiliary de is impossible).

In the case of SI and verbs that operate like it (SEN 'hang', SAM 'spread over'; BEA 'lie, lay'; GU 'scatter' etc.) the N_p noun phrase is generally inanimate. This is considered to be a selectional restriction appropriate to the particular verb in question, rather than a restriction on the frame itself and is not discussed further here, but cf. I.4.3. That this ^{need not} ~~may~~ be the case can be seen from a consideration of such verbs as GYINA 'stand'. Thus, analogous to the sentences in (1) we will find sentences like:

- 4a. ne poma no gyinà ɔfasu no ho (his stick the (cont)+stand wall the exterior: His stick is standing against the wall)
- b. Kofi de ne poma no gyinaa ɔfasu no ho (Kofi take his stick the stand+pret wall the exterior: Kofi stood his stick against the wall)

where, as in (1), the N_p noun phrase (ne poma no) is indeed inanimate. Now consider the sentences:

- 5a. abɔfora no gyinà ɔpono no so (child the (cont)+stand table the on: The child is standing on the table)
- b. Kofide abɔfora no gyinaa ɔpono no so (Kofi take child the stand+pret table the on: Kofi stood the child on the table).

These sentences are also analogous to the sentences in (1) except that the N_p noun phrase (abɔfora no) is this time animate.

This now leads to additional complications, since GYINA

may also be used as an active two-place verb with an animate subject noun: consider the sentences:

- 6a. abofoɾa no ɡyinaa ɔpono no so (child the stand+pret
table the on: The child stood on the table)
- b. abofoɾa no regyina ɔpono no so (child the prog+stand
table the on: The child is getting onto the
table)
- c. na abofoɾa no ɡyina ɔpono no so (past child the (cont)+
stand table the on: The child was standing on
the table).

The functional specification for the sentences (6a-b) is

- 7. A: ac E_a L_{pos} .

In the sentences (6a,b) the child referred to may be considered as both the initiator and actor of the action described. A similar situation does not hold in (5a). In (5b) the subject NP (Kofi) refers to the actor and initiator. The sentences (6a,b) do not differ from each other with respect to transitivity, though they do with respect to tense/aspect (shown by the different verb forms, preterite and progressive). The sentences (5a) and (5b) differ both in transitivity (corresponding to the frames (2a) and (2b) respectively) and in tense/aspect (The verb in (5a) is in the continuative form, which cannot appear in active sentences; the verb in (5b) is in the preterite form, which cannot appear in stative sentences). Note that the past sentence corresponding to (5b) is (6c).

It will also be observed that whereas GYINA enters the three transitivity frames (2a,) (2b) and (7), SI enters only the two frames (2a) and (2b).

A somewhat similar relationship between frames may be observed with TENA ASE 'sit down', which may be interestingly supplemented by the stative TE 'be in a place etc.,':

- 8a. abofoɾa no te ho (child the (cont)+sit there: The child is sitting down there)
 b. abofoɾa no retena ase (child the prog+sit-down: The child is (in the act of) sitting down there)
 c. abofoɾa no atena ase (child the perf+sit-down: The child has sat down/is sitting down)

TENA ASE enters the frame (7) and TE the frame

9. S: desc N_p L_{pos}

TENA ASE may, like GYINA, also be agentivised (and enter the frame (2b)):

10. Kofi de abofoɾa no tenaa ase (Kofi take-child the sit-down+pret: Kofi sat the child down)

but TE may not:

11. *Kofi de abofoɾa no te ase.

Many locative verbs exhibit the same sort of relationship between stative and active frames. As a further example consider DA:

- 12a. okeraman no dà ho (dog the (cont)+lie there: The dog is (in a state of) lying there)
 b. ná okeraman no dà ho (past dog the (cont)+lie there: The dog was (in a state of) lying there)
 13a. okeraman no dá ho daa (dog the (hab)+lie there always: The dog always lies there - habitual)
 b. ná okeraman no dá ho (past dog the (hab)+lie there: The dog used to lie there 'past' habitual)
 c. okeraman no reda ho (dog the prog+lie there: The dog is (in the act of) lying down there)
 d. okeraman no ada ho (dog the perf+lie there: The dog has laid down there; the dog is lying down there)

Here we have stative sentences in (12) and an inchoative stative in (13d); the other frames in (13) are active.

Note that in this case there is no agentivised ergative:

14. *ode okeraman no reda ho (?he is laying the dog down there)

Note too that while we may wish to say that the stative and

active frames in (12,13) are related, this is not always the case. In (13) we may say that the subject ^{is} ~~is~~ ergative: there is, for example, the corresponding imperative:

15. da ho! ((opt)+lie there: Lie there)

and it appears to be this frame that is related to the stative (12). When, however, DA has an inanimate subject and is in the stative, there does not appear to be a corresponding active two-place ergative:

16a. me kuro no da bon mu (my town the (cont)+lie valley
inside: My town lies (is situated) in a valley)

b. ekuro bi da me nan ho (sore a (cont)+lie my leg
exterior: I have a sore on my leg).

We may also note that DA can appear in some non-locative frames. Thus note the sentences:

17a. oreda (he+prog+sleep: He is falling asleep)

b. wada (he+perf+sleep: He has fallen asleep; he is asleep).

In these sentences DA may be considered as an inchoative verb. Thus, while (17b) may be interpreted as an inchoative stative ('he is asleep'), there is no continuative form possible with this sense:

18. *^oda (He is asleep)

A different sort of relationship between stative and active frames may be seen with the verb BEN (which we have discussed in another connection in Chapter IV.43). BEN may be a stative locative verb:

19a. S: desc N_p L_{pos}

b. dua no ben ho (tree the (cont)+near there: The
tree is near there)

dua no ben ofie no ho (tree the (cont)+near house the
exterior: the tree is near the house)

when it appears, as the frame indicates, only in the

continuative form. Or it may be an active verb:

20a. A: ac E_a L_{pos}

b. oreben ofie no ho (he+prog+approach house the exterior: He is approaching the house).

As a final instance of the sorts of relationship between stative and active frames discussed in this section consider the following.

21. sika no hye ɔsen no mu (money the (cont)+hide pot the inside: The money is hidden in the pot).

This sentence is stative, and the verb is descriptive. HYE may also be found in active sentences like:

22. sika no ahye ɔsen no mu (money the perf+hide pot the inside: The money has dropped into the pot = is hidden in the pot)

This sentence is best analysed as a stative inchoative (it has the sense 'the money is in the pot', but as a 'resultant' state rather than simply as a state as is implied by (22)). With this particular sentence it is difficult to conceive an appropriate situation for the active counterparts like:

23. ?sika no rehye ɔsen no mu (money the prog+hide pot the inside)

but the ergative counterpart:

24. ɔde sika no hye ɔsen no mu (he+take money the hide+pret pot the inside: He concealed the money in the pot)

is perfectly acceptable, as indeed is the same sort of sentence with a non-referring subject:

25. yede sika no hye ɔsen no mu ('they'+take money the hide+pret pot the inside: the money has been concealed in the pot).

HYE too may also appear in a two-place ergative construction:

26. okhye Edinburgh (he+ingres+stay+pret Edinburgh: He went and stayed in Edinburgh).

We now turn to examine a different set of verbs: those that may be described as 'verbs of motion' and illustrated by examples like:

- 27a. orenante abonten (he+prog+walk street: He is walking
in the street)
b. ^{ohuri}ohurii opono no so (he+red+jump+pret table the on:
He jumped up and down on the table)
c. odwaree po no mu (he+swim+pret sea the inside: He
swam in the sea).

The syntax of these verbs resembles that of some of the two-place active verbs discussed earlier in this section. With such verbs the locative complement is not an obligatory constituent of the transitivity frame, as it is, for instance, with stative locative verbs (cf. remarks on (1-3) above).

Thus sentences like:

- 28a. orenante (he+prog+walk: He is walking)
b. odwaree (he+swim+pret: He swam)

are perfectly acceptable. Furthermore they differ from other verbs with positional locatives in that these verbs will permit the appearance of the locative marker wə before the locative complement (as against verbs like those discussed in (1-3)). Thus

- 29a. odwaree wə po no mu (he+swim+pret locative sea the
inside: He swam in the sea)
b. ohurii wə opono no so (he+red+jump+pret locative
table the on: He jumped up and down on the
table).

It must be remarked, however, that whereas the forms in (29) are not unacceptable, they are considered to be less frequent than the corresponding forms in (27) which do not have the overt form wə. In spite of this, the locative constituent is regarded as part of the transitivity frame rather than as

a place adverbial, and hence extra nuclear. There are two reasons for this. In the first place the locative constituent is necessary for 'strict subcategorisation' of the verbs in question (cf. discussion in Chomsky 1965): in Halliday's terms (1970) the locative may be regarded as an 'inherent' though not an 'obligatory' function: cf. discussion in II.4.5a. As a small piece of supporting syntactic evidence we may observe the behaviour of the preterite form of the verb. It will be recalled from III.3.3a that when the preterite is nucleus final or when it is in pause it may take the form with a final palatal glide -ye. Thus:

30a. *ɔdwaree po no mu* (he+swim+pret sea the in: He swam
in the sea)

b. *ɔdwareye* (he+swim+pret: He swam).

Similarly, with a two-place non-locative verb:

31a. *ɔkann nwoma no* (he+read+pret book the: He read the book)

b. *ɔkanye* (he+read+pret: He read it)

but not:

32. **ɔkanye nwoma no*

and similarly not:

33. **ɔdwareye po no mu*.

But, note now that we may find the sentences:

34. *ɔkann nwoma no (wɔ) sɔtɔɔ no mu* (he+read+pret book the
(locative) store the in: He read the book in the
store)

ɔkanye (wɔ) sɔtɔɔ no mu (he+read+pret (locative) store
the in: He read it in the store)

where we find the pausal form of the verb before the locative place adverbial: the 'corresponding' form (33) is, as we have already noted impossible. The transitivity frame proposed for such verbs is:

35. A: ac,mot E_a L_{pos} .

Not all verbs of motion involve E_a subjects and it is interesting to find that there is at least one stative verb of motion:

36a. S: desc,mot N_p L_{pos}

b. onàm (wə) abonten no so (he+(cont)+walk street the
on: He is walking in the street)

NAM may, in some sense, be considered to be suppletive to NANTE 'walk' shown in (27).

The last set of verbs we shall discuss may be illustrated by sentences like:

37a. arekə Kumase (he+prog+go Kumase: He is going to Kumase)
areba ha (he+prog+come here: He is coming here)
arefiri ne fie no mu (he+prog+come-out-of his house
the inside: He is leaving his house)

b. waba (he+perf+come: He has come; he is here)
wakə (he+perf+go: He has gone; he is gone)

c. mefirì Ghana (I+(cont)+be-from: I come from Ghana)

d. akwan no twa asubonten no (road the (hab)+cross river
the: The road crosses the river)

In many ways the (a) sentences operate like the sentences containing verbs of motion discussed above: the positional locative is not an obligatory constituent. However, with these verbs there is no possibility of wə appearing in the sentence:

38. *arekə wə Kumase.

etc. We may also note a semantic distinction in that the locative complement in these cases is not in general interpreted as the place 'where' the action etc. described by the verb is located (as is the case with the verbs of motion) but rather the point towards which, through which, from which etc.

the motion takes place: cf. the English glosses for (27ff. - 'he is jumping up and down on the table') with those for (37 - 'he is going to Kumase' etc.). These verbs, in (a), are categorised as:

39. A: ac,dir E_a L_{pos} .

The categorisation as ac,dir(ectional) verbs accounts not only for peculiarities of their syntax, but also for the fact that these verbs may also be used as the 'auxiliary' in directional locative expressions, mentioned in IV.1(3) and for more detailed discussion in V.3 below.

The (b) sentences, as may be inferred from the glosses, have a 'state perfect' interpretation. There is thus a distinction to be drawn here between the descriptive stative to be found in, for example, the locative 'copula':

40. owo ho (he+(cont)+be-in-a-place here: He is here)
and the resultative stative to be seen in:

41. waba ha (he+perf+come: He is here - i.e. he has come here).
This distinction is identical to the distinction drawn between similar pairs of sentences earlier in this section (cf., for example, (12a,13d).

The (c) sentence is also stative, and may be characterised as deriving from the functional structure:

42. S: desc,dir N_p L_{pos} .

It differs from the (d) sentences only in that the frame in (c) is stative and in (d) is active:

43. A: desc,dir N_p L_{pos} .

From the remarks in Chapter III with respect to process classes and verb forms we may thus account for the grammaticality of

44. oreko Kumase (he+prog+go Kumase: He is going to Kumase)
where the verb is an action verb and the subject is erg, and the ungrammaticality of:

45. *okwan no reko Kumase

as also for the interpretation of:

46. okwan no ko Kumase (road the (hab)+go Kumase: The road goes to Kumase)

as against:

47. oko Kumase (he+(hab)+go Kumase: He goes to Kumase habitually).

Thus note the status of the pair of sentences:

48a. oko Kumase da biara (he+(hab)+go Kumase day each:
He goes to Kumase every day)

*okwan no ko Kumase da biara.

It will be clear that we have not illustrated all the transitivity frames possible for locative sentences: we may therefore conclude by some illustration of frames not so far discussed. Some of the relationships between such frames will be implicit in the examples chosen and will not be further drawn out.

49a. A: ac E_a L_{pos}

b. cf. (6), (20)

ohyenee sukuu no mu (he+enter+pret school the inside:
He entered the school)

watu dan no mu (he+perf+leave room the inside:
He has left the room)

50a. A: ac E_a N_p L_{pos}

b. opiraa Kofi ne nsa no mu (he+wound+pret Kofi his
hand the in: He wounded Kofi in the hand)

51a. A: ac N_p L_{pos}

b. dua no nhwiren regu fam (tree the flowers prog+fall
ground: The trees blossoms are pouring down)

akutu no rete fam (oranges the prog+fall ground: The
oranges are falling on the ground)

52a. S: desc N_p L_{pos}

b. cf. (19), (9)

53a. A: desc N_p L_{pos}

b. okwakuo bi koto dua no so (monkey the (hab)+squat
tree the top: There is a monkey sitting
in the tree)

yepene kurom (we+(hab)+approach town: We are
approaching town)

54a. A: inch N_p L_{pos}

b. owo no revera ne tokuru no mu (snake the prog+
disappear his hole the inside: The snake
is disappearing into its hole)

ahama no reforo dua no mu (creeper the prog+grow
tree the in: The creeper is growing over
the tree)

55a. S: inch N_p L_{pos}

b. Kofi apira ne nsa mu (Kofi perf+wound his hand inside:
Kofi is wounded in the hand)

sika no ahye ahina no mu (money the perf+hi de pot
the inside: the money is hidden in the pot)

It will be noted, as we have already remarked, there is no locative frame involving a N_c case feature bundle. In addition to the frames illustrated in (49-55), we have observed that there is the frame:

56a. S: ac N_p L_{pos}

b. (1a) (4a) (5a) etc.

It is this frame which is characteristically ergativised by the agentive ergative:

57. dadewa bi tua ofasu no mu (nail a (cont)+stick wall the
in: There is a nail stuck in the wall)

ode dadewa bi tuua ofasu no mu (he:take nail a stick+
pret wall the in: He stuck a nail in the wall)

We have also noted that the process type in certain of these frames may be further subcategorised as mot(ion) or dir(ectional). The frames to which these sub-classifications apply appear to be the following:

59a. A: ac,mot E_a L_{pos}

b. (27ff)

60a. S: desc,mot N_p L_{pos}

b. (36)

We have already observed that there appears to be a suppletive relationship between:

61. *orenante* (wo) *abonten* (he+prog+walk (locative) street:
He is walking in the street)

62. *onam* (wo) *abonten* (he+(cont)+walk (locative) street:
He is walking in the street)

The relationship between this pair of verbs may be compared to that between BEN in the following:

63. *dua no ben ofie no ho* (tree the (cont)+near house the
exterior: The tree is near the house)

64. *oreben ofie no ho* (he+prog+approach house the
exterior: He is approaching the house)

(cf. (19) and (20)). Note that with the verbs of motion *wo* may optionally appear, but with the locative verbs it may not. In addition, we find the active counterpart of (60):

65a. A: desc,mot N_p L_{pos}

b. *okyinkyinn* (wo) *kurom* (he+red+wander+pret (locative)
town: Hewandered around in the town)

The same three frames will also admit directional verbs.

Thus we find:

66a. A: ac,dir E_a L_{pos}

b. (37a, 39)

67a. S: desc,dir N_p L_{pos}

b. (37c, 42)

68a. A: desc,dir N_p L_{pos}

b. (37d, 42, 46).

Syntactic distinctions between motion and directional verbs have already been mentioned in the text.

A few verbal lexemes permit a positional locative case

feature bundle on its own: the relevant frames are either descriptive or inchoative:

57a. S: desc L_{pos}

b. tokuro no mu do (hole the inside (cont)+deep: The hole is deep)

58a. A: desc L_{pos}

b. Abetifi koron (kyen okwau nkuro nyinaa) (Abetifi (hab)+high ((hab)+surpass Kwahu towns all): Abetifi lies higher than all other Kwahu towns)

59a. A: inch L_{pos}

b. asu no mu redo (river the inside prog+deep: The river is getting deeper)

and the corresponding stative frame.

The relevant rules which account for the frames examined are in ~~V.3 below~~. Chapter VI

V.3. The Directional locative

The directional locative indicates the course pursued by the referent(s) of one (or more) of the NPs in the sentence moving in the manner indicated by the main verb. In surface structure such complements are realised by a directional verb usually followed by a positional locative complement which indicates the point towards which, past which, through which etc., the movement is directed: thus:

1a. Kofi dware koo mpoano (Kofi swim+pret go+pret shore: Kofi swam towards the shore)

b. Kofi dware twaa asubontene no mu (Kofi swim+pret cross+pret river the inside: Kofi swam across the river)

c. Kofi dware firii mpoano (Kofi swim+pret come-from+pret shore: Kofi swam away from the shore)

d. Kofi dware faa twene no ase (Kofi swim+pret take+pret bridge the under: Kofi swam under the bridge).

As we have already noted some verbs take both place and directional locatives:

- 2a. Kofi dwaree asubonten no mu (Kofi swim+pret river the inside: Kofi swam in the river)
- b. Kofi dware twaa asubonten no mu (Kofi swim+pret cross+pret river the inside: Kofi swam across the river).

Most verbs, of course, do not take directional complements. Thus there is no directional interpretation to a sentence like:

- 3. Kofi dii aduane bi koo Kumase (Kofi eat+pret food some go+pret Kumase: Kofi ate some food and went to Kumase)

though the sentence is perfectly acceptable in the sense given as a serial conjunction (cf. II.3.1) of the simple sentences:

- 4a. Kofi dii aduane bi (Kofi eat+pret food some: Kofi ate some food)
- b. Kofi koo Kumase (Kofi go+pret Kumase: Kofi went to Kumase).

We shall return to this point in due course.

It will be noted that in the sentences (1) the directional auxiliary (KO, TWA, FIRI, FA) is one of the set of directional verbs discussed in the previous section, followed by a positional locative, as is the case with the directional verbs themselves. It may also be noted that sentences like (1) formally resemble serial sentences in certain respects: the analysis offered here, however, analyses such directional complements as developing from a 'directional' core which may be compared in points of syntax with the 'agentive core' discussed in II.3.1.

As with the agentive core, there is no independent choice for illocutionary force, modality or aspect open to the

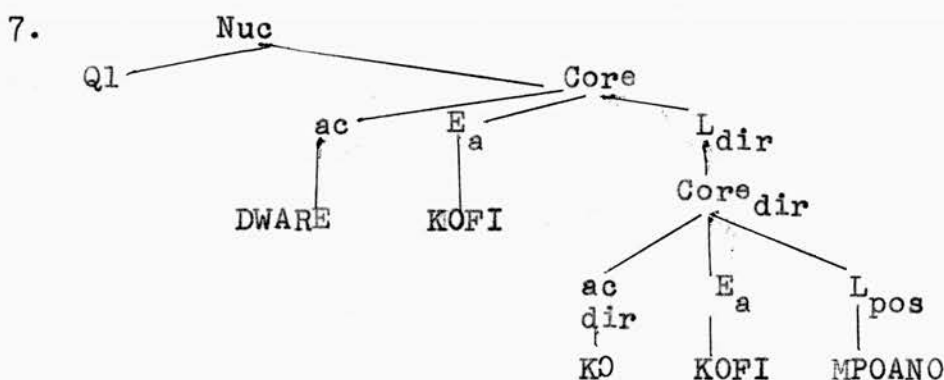
directional auxiliary. Thus we find sentences like:

5. Kofi nnware nkoo mpoano (Kofi neg+swim+perf neg+go+perf shore: Kofi hasn't swum towards the shore)
 ese se Kofi dware ko mpoano (it+(hab)+necessary that Kofi (opt)+swim (opt)+go shore: Kofi has to swim to the shore)

but no sentences like:

6. *Kofi nnware ako mpoano
 *Kofi dwaree ese se oko mpoano

On the other hand, as with agentive expressions, there are points of contact with serial sentences. The proposed expanded functional structure underlying a sentence like (1a) is (in the relevant outline) shown in (7).



We will discuss the syntactic operations which lead to the sentence (1) below.

It will be observed that the sentences (1) are one-place sentences with an E_a subject. We will also find one-place sentences with nom subjects:

8. eboo no pire koo bepo no ase (stone the roll+pret go+pret hill the bottom: The stone rolled down the hill)

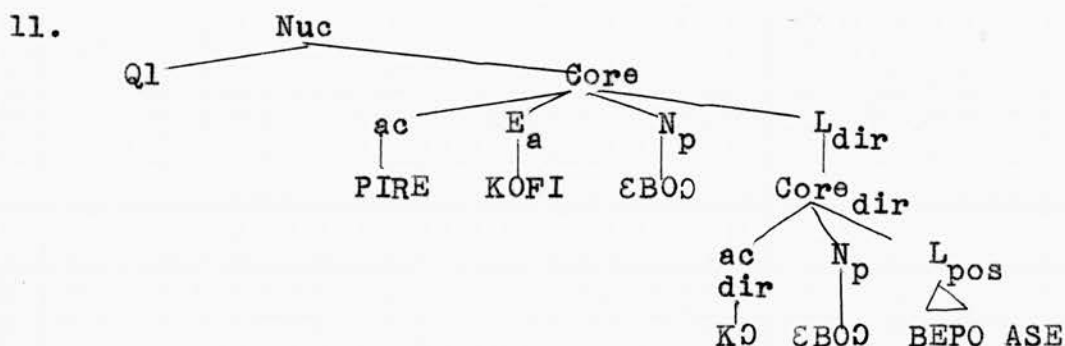
the underlying functional structure of which is postulated to be similar to that of (7), and, indeed, we find sentences which are the ergative counterpart of (8):

9. Kofi pīree ēbōō no kōō bepō no ase (Kofi roll+pret
stone the go+pret hill the bottom: Kofi rolled
the stone down the hill).

It may be noted in passing that there is no agentive counterpart to (9), but that (8) may be causativised:

10. *Kofi de ēbōō no pīre kōō bepō no ase
Kofi maa ēbōō no pīre kōō bepō no ase (Kofi 'cause'+
pret stone the roll+pret go+pret hill the bottom:
Kofi caused the stone to roll down the hill).

The underlying functional structure postulated for the directional interpretation of (9) is (11).



From the underlying structure of (7) it will be observed that Kofi is the subject of both the main verb (DWARE) and the directional auxiliary (K0), but in (11) EB00 NO 'the stone' is the object of the main verb, but the subject of the directional auxiliary. The most obvious interpretation of (9) is that Kofi did the rolling, and it was the stone that went down the hill: this is reflected in the functional structure (11), and it may be noted that with respect to (9) and (11) the following form a question and answer sequence:

12. Q: ehefa na Kofi pīree ēbōō no kōyē? (where 'it+is'
Kofi roll+pret stone the go+pret: Where did
Kofi roll the stone?)
A: opīre kōō bepō no ase (he+roll+pret go+pret hill
the bottom: He rolled it down the hill)
13. Q: ehefa na ēbōō no pīre kōyē? (where (it+is' stone
the roll+pret go+pret: Where did the stone
roll?)

A: epire koo bepo no ase (it+roll+pret go+pret hill
the bottom: It rolled down the hill)

but with respect to the underlying structure (11) (but not to another structure) the sequence:

14. Q: ehafa na Kofi pire koya? (where 'it+is' Kofi roll+pret go+pret: Where did Kofi roll?)

A: opire koo bepo no ase (he+roll+pret go+pret hill
the bottom: He rolled down the hill)

is not well formed.

We may now observe however that (9) is also open to another interpretation, which is perhaps less immediately obvious but is nevertheless perfectly acceptable: 'Kofi rolled the ball and (then) he went down the hill'. This interpretation is considered to be a straightforward serial sentence which may be related to a conjunction of the two simple sentences:

15. Kofi piree eboo no (Kofi roll+pret stone the: Kofi
rolled the stone)

Kofi koo bepo no ase (Kofi go+pret hill the bottom:
Kofi went down the hill)

(cf. the serial discussed in (3,4)). Under this interpretation, but not the directional interpretation, (9) may be paraphrased as:

16. Kofi piree eboo no na okoo bepo no ase (Kofi roll+pret stone the 'it+is' he+go+pret hill the bottom: Kofi rolled the stone and he went down the hill).

Conversely the directional interpretation may be related to the cleft:

17. Kofi piree eboo no ma ekoo bepo no ase (Kofi roll+pret stone the 'cause'+pret it+go+pret hill the bottom: Kofi rolled the stone DOWN the hill)

(cf. the analogous clefts discussed for the agentive core in II.3.1).

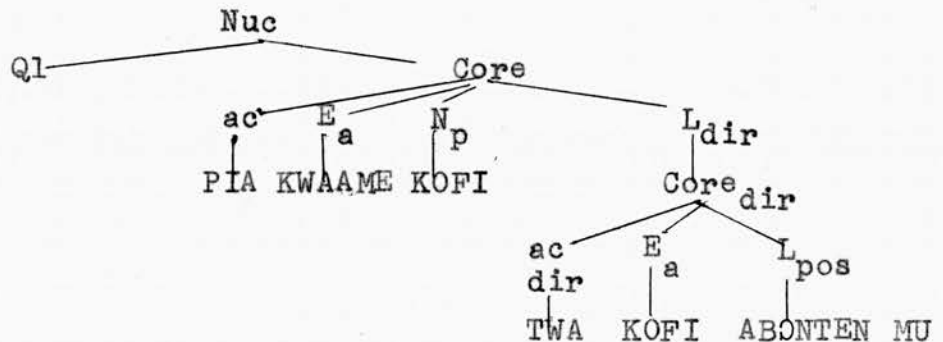
Thus far we have supposed that the directional core is developed into a sentence the subject of which, in two-place sentences (i.e. E_a L_{dir} (cf. (1)) or N_p L_{dir} (cf. (8))), is the non-locative case feature bundle; and in three place sentences (i.e. E_a N_p L_{dir}) is the N_p case feature bundle.

There are, in fact, instances of sentences which are capable of a three way interpretation. Thus consider the sentence:

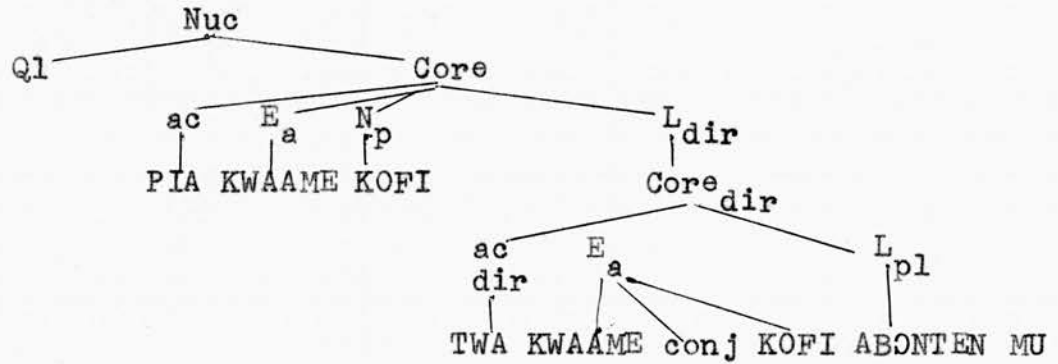
18. Kwaame piaa Kofi twaa abonten no mu (Kwaame push+pret
Kofi cross+pret street the inside)

This may be interpreted either as: 'Kofi pushed Kwaame and he (Kofi) crossed the street' (cf. the 'serial' interpretation of (9) above), or as 'Kofi pushed Kwaame across the street' (cf. the directional interpretation of (9) above). The directional interpretation is however ambiguous as between an interpretation where Kwaame pushed Kofi across the street while he (Kwaame) remained on the side of the street where he administered the push, or as Kwaame pushed Kofi right across the street, i.e. he started pushing him on one side of the street and continued to push him right across the street. This distinction may be caught in the functional structure as follows:

19.



20.



We shall now need to modify the informal statement of the subject assignment of the directional core in three place sentences: the subject is either the N_p case feature bundle, or both the N_p and the E_a case feature bundle conjoined.

Whether sentences like (18) are interpreted, or potentially to be interpreted, as two or three ways ambiguous clearly depends on the semantics of the situation (as in (18)) or the semantics of the verbs involved, since some are clearly, by the sense of the verb, not capable of a three way interpretation. A three way interpretation is thus plausible for a sentence like:

21. otwee asau no firii nsuo no mu (he+pull+pret net the come-from+pret water the inside: He pulled the net out of the water (he and the net were both in the water, and he pulled it right out; he was out of the water and the net was in the water and he pulled the net out); he pulled the net and left the water)

but only a two way interpretation is feasible for a sentence like:

22. osomaa no koo Kumase (he+send+pret him go+pret Kumase: He dispatched him to Kumase: he dispatched him and went to Kumase)

Some further examples include sentences like:

- 23a. okyeree prako no koo kurom (he+catch+pret pig the go+pret town: He took the pig₁ to town; he caught the pig and went to town)

1. It is interesting to compare the pidgin sentence:
de man kot de pig to tau (the man took the pig to town)
(This data, and most of the data in this section comes from K. Boakyi in Efiduase).

- 23b. ogyegyee esono no firii wiram (he+red+entice
elephant the come-from bush: He enticed
the elephant out of the bush; he provoked
the elephant and left the bush)
- c. odaadaa abawaa no firii ne dan no (he+red+cajole
girl the come-from her house the: He cajoled
the girl out of her house; he flattered the
girl and left the house)
- d. osumm onipa no firii ne fie no (he+push+pret man the
come-from his house the: He pushed the man
out of his house; he pushed the man and
left the house).

We may, finally, note that just as directional verbs when they are the main verb in a sentence need not have a complement:

24. obaye (he+come+pret: He came)
- so too the directional auxiliary need not necessarily take a locative complement:

25. opiaa me kaye (he+push+pret me go+pret: He pushed me
away; he pushed me and left)
- osumm me firiye (he+push+pret me come-from+pret: He
hurled me out; he pushed me and went out).

These are the only directional locatives we discuss: it will be noted that the only frames in which they occur are active frames with action verbs in them.

The proposed derivation of these sentences will be clear from the underlying functional structures outlined in (7) and (11). As with agentive ergatives (cf. II.3.1) an expansion rule will expand the directional case feature bundle into a directional core: this contains a directional verb, a place complement and one further case feature bundle. This last is a copy of one or both of the non-loc case feature bundles in the sentence. If the sentence contains only one further bundle, then this is copied: E_a , as in (7), or N_p , as in (11). If the sentence contains two case feature bundles,

then the copied bundle is either the N_p bundle (as in (19), or both, as in (20): it cannot be only the E_a bundle in these circumstances.

V.4. Some aspects of the syntax of locative NPs

V.4.1. Word Order

From the examples given in previous sections it will be observed that the locative NP characteristically follows the main verb in simple sentences.

V.4.2. Constituency structure

As we have noted, positional locatives are realised either by a place noun, or by a locative phrase consisting of an NP followed by a locative particle. Place names constitute a sub-class of place nouns:

- 1a. mete Koforidua (I+(cont)+live Koforidua: I live in Koforidua)
- b. mereko Kumase (I+prog+go Kumase: I am going to Kumase)
- c. mefiri Ghana (I+(cont)+be-from Ghana: I come from Ghana)

etc. There are a few nouns that may be used as place nouns, or as non-place nouns: thus compare the following:

- 2a. mereko fie (I+prog+go house: I am going home)
- b. mereko fie no mu (I+prog+go house the inside: I am going into the house)

There are also a few 'compound nouns' where one of the constituent parts is itself a locative particle:

- 3a. eserem ('the north': i.e. in the grasslands: sere 'grass' + mu)
- b. mpoano (sea shore, beach: po + ano)
- c. nsam (palm (of the hand): nsa + mu)

Such nouns may, like FIE above, be used as locative expressions with no further locative particle:

4. *ɔreko mpoano* (he+prog+go beach: He is going to the beach).

There are also a few nouns which are commonly used in locative expressions where the locative exhibits most of the characteristics of compounding but which are probably best not regarded as compounds. Thus, for example, note kurom 'in town etc.':

- 5a. *Kofi reko kurom* (Kofi prog+go town: Kofi is going to town)
 b. *Kofi reko kuro no mu* (Kofi prog+go town the inside: Kofi is going to the town)

but not:

6. **Kofi reko kurom no*.¹

With regard to kurom it may be noted that the locative particle mu has phonologically coalesced with the preceding noun, and the final vowel has elided. Items like kurom (and wiram 'in the bush' etc., dwam 'at market' etc.) have the phonological status of single words, though grammatically they probably derive from a locative expression, NP + particle; by contrast, items like mpoano 'beach' are both phonologically and syntactically single words and derive from a place noun in an NP construction.

Locative phrases consist of an NP followed by a locative particle. Non locative nouns can only be used in

-
1. This sentence is not grammatical in the sense intended. It is however grammatical if ~~it is~~ considered to be a temporal expression: 'when Kofi is going to town'. In this case no is not an article in the sense intended (cf. 5b). The constituency structure of (6), if it is understood as a temporal expression is of the form: (_S(Kofi reko kurom)no) where the embedded S may be compared with (5a) above, and no is a nominaliser of the sentence. There is no proper analysis of the form: S(_{NP}(Kofi) VP(_V(reko) _{NP}(kurom no))).

locative phrases when in construction with a locative particle. Thus for example;

7. mete Koforidua (I+(cont)+live Koforidua: I live in Koforidua)

mete Ow. Debrah nkyen (I+(cont)+live Mr. Debrah side:
I live with Mr. Debrah - lit. Mr. Debrah's side)

but not:

8. *mete Ow. Debrah.

We may now observe that locative nouns may themselves be in construction with locative particles:

9. mete Koforidua akyi (I+(cont)+live Koforidua behind:
I live beyond Koforidua)

but locative particles may not be in construction with each other, nor may more than one particle be in construction with a single locative expression:

10. *mete nkyen akyi
*mete Koforidua akyi ho.

The constituency structure of directional locatives has been discussed in V.3 above.

V.4.3. Positional locatives and locative adverbials

The positional locative is considered to be a nuclear function: the locative adverbial is extra nuclear: this distinction has been commented on above, here we may summarise some differences between positional locatives and locative adverbials by comparing the syntax of the sentences:

- 1a. Kofi de kanea no sii spono no so (Kofi take lamp the
stand+pret table the on: Kofi stood the lamp
on the table)
- b. Kofi de kookoo no hataa spono no so (Kofi take cocoa
the spread+pret table the on: Kofi spread the
cocoa out on the table)

where in (a) the locative is nuclear and in (b) it is not.

First we note that the locative is relevant to the strict subcategorisation of SI but not of HATA: in Halliday's terms it is inherent with SI, but not with HATA.

With SI it is also an obligatory function:

2. *Kofi de kanea no siye

Kofi de kookoo no hataye (Kofi take cocoa the spread+pret: Kofi spread out the cocoa).

Locative adverbials may always, optionally, be preceded by wə. The locative complement is rarely preceded by wə (but cf. verbs of motion 2; joint place locatives 4) and with verbs like SI is never preceded by wə:

3. *Kofi de kanea no sii wə opono no so

Kofi de kookoo no hataa wə opono no so (Kofi take cocoa the spread+pret locative table the on: Kofi spread the cocoa out on the table).

Nucleus final, and preceding pause, the preterite may take the form -ye (cf. III.2.2a):

- 4a. *Kofi de kanea no siye opono no so

b. Kofi de kookoo no hataye (wə) opono no so.

Rules for clefting place adverbials and locative differ, as may be inferred from comparing the following:

- 5a. opono no so na Kofi de kanea no siye (table the top 'it+is' Kofi take lamp the stand+pret: It was on the table that Kofi stood the lamp)

b. opono no so na Kofi de kookoo no hataye (table the top 'it+is' Kofi take cocoa the spread+pret: It was on the table that Kofi spread out the cocoa)

- 6a. *ewə opono no so na Kofi de kanea no siye

b. ewə opono no so na Kofi de kookoo no hataye (it+(cont)+be-in-a-place table the top 'it+is' Kofi take cocoa the spread+pret)

- 7a. *opono no na Kofi de kanea no sii wə so

b. opono no na Kofi de kookoo no hataa wə so (table the 'it+is' Kofi take cocoa the spread+pret locative top.)

V.4.4. Joint locatives

No nucleus may have more than one locative complement: this is in line with our original hypothesis about the nature of case relations. Thus there is no sentence:

1. *kanea no si ɔpono no so akonnua no so (*the lamp stands on the table on the chair).

There is, of course, no restriction on the modification of the noun within a locative phrase by a relative clause, which may itself have a locative predicate:

2. kanea no si akonnua aa ɛwɔ ɔpono no so no so ((kanea no si akonnua (aa ɛwɔ ɔpono no so) no so): lamp the (cont)+stand chair (relative it+(cont)+be-in-a-place table the top)the top: the lamp stands on the chair which is on the table).

There are, however, sentences where it appears that we may postulate a 'joint' locative. These are analogous to sentences already examined where we have joint N_p expressions: semantically it appears that a joint locative further specifies, or specifies in a different way, the location of the object in question. Thus, consider sentences like:

- 3a. nwoma no da fam wɔ akonnua no ho (book the (cont)+lie floor locative chair the exterior: The book lies on the floor near the chair)
- b. ɔkeraman no da ɔkwan no mu wɔ nnua no ase (dog the (cont)+lie street the in locative trees the under: The dog is lying in the street under the trees)
- c. mpensere no gu ɔpono no so wɔ mfensere no ase (pencils the lie table the on locative window the under: The pencils are lying on the table under the window)
- d. wokotenaa wiram wɔ ofie ketewa bi mu (they+ingress+live+pret bush locative house small the in: They went to live in the bush in a small house).

In all these examples there are two locative phrases: in (a) for instance there is fam, 'on the floor', and wɔ akonnua no ho, 'near the chair'. Note that the first phrase does not contain wɔ, and would be ungrammatical if it did, and the

second has a wə, which is generally present, but may, in fact, be omitted. These are considered to be joint locative expressions. Generally speaking joint locatives are permutable:

- 4a. nwoma no da akonnua no ho wə fam (book the (cont)+lie chair the exterior locative floor: The book is lying near the chair on the floor)
- b. okeraman no da nnua no asee wə okwan no mu (dog the (cont)+lie trees the under locative street the in: The dog is lying under the trees in the street)

etc.: this permutation appears to be a stylistic variant.

Note first that these joint locatives differ from relative clauses. This is certainly true from a semantic point of view - (3a) for instance cannot be understood as 'the book is lying on the floor which is near the chair', nor (3b) as 'the dog is lying in the street which is under the trees' (as opposed to some other street). Furthermore such sentences differ syntactically from expressions with relative clauses. Thus, consider the following sentences:

- 5a. ogyina kaa aa esi dua no akyi no ho (he+(cont)+stand car relative it+(cont)+stand tree the behind the exterior: He is standing by the car which is behind the tree)
- b. ogyina kaa no ho wə dua no akyi (he+(cont)+stand car the exterior locative tree the behind: He is standing by the car behind the tree)

In (a) the constituents of the locative expression (which is not joint) may be diagrammed as follows:

6. ogyina kaa (aa esi dua no akyi) no ho
i.e. the relative clause immediately follows the noun it modifies and precedes the locative particle which is in construction with the head noun. In (b) the second of the joint locative phrases follows the entire first phrase. Nor would it be satisfactory to consider the second locative as a

kind of postponed relative, since that would involve exceptions to the relativisation rules. It will be recalled that the verb in a relative clause is in the subjunctive tone pattern:

- 7a. káa nó wò dúá nó akyí (car the (cont)+be-in-a-place
tree the behind: The car is behind the tree)

(note the low tone on wò)

- b. káa áa ewó dúá nó akyí nó (car relative it+(cont)+be-
in-a-place tree the behind the: The car which
is behind the tree)

But the verb wò in (5b) is, as marked, in the ^{subjunctive} ~~indicative~~ tone. It seems then that we may reject the possibility of sentences like (3) being derived through some form of relativisation.

Another possibility, which is also rejected, is that sentences like (1) should be considered as a form of serial sentence: i.e. that such sentences derive from double based structures through conjoining and subsequent serialisation. Under this analysis it might be supposed that a sentence like:

8. nwoma no da ɔpono no so wò akonnua no ho (book the
(cont)+lie table the on locative chair the
exterior: The book is on the table near the chair)

derives from the conjunction of:

- 9a. nwoma no da ɔpono no so (book the (cont)+lie table the
top: The book is on the table)
b. nwoma no wò akonnua no ho (book the (cont)+be-in-a-
place chair the exterior: The book is near the
chair)

But this involves an immediate problem since while the 'serial' form (8) is perfectly acceptable, the conjoined form is anomalous:

10. *nwoma no da ɔpono no so na ewò akonnua no ho (*the
book is on the table and the book is near the
chair).

A further problem arises in negation. When wò is used in

construction with locative phrases it is invariant:

- 11a. yetu sika wɔ Obuasi ('they'+(hab)+dig gold locative
Obuasi: They mind gold at Obuasi)
b. yentu sika wɔ Kumase ('they'+(hab)+neg+dig gold
locative Kumase: They don't mine gold at Kumase)

However, when wɔ is the 'main verb' - i.e. when it is used as a copula - it has a suppletive negative form in nni:

- 12a. ɔwɔ Kumase (he+(cont)+be-in-a-place Kumase: He is at
Kumase)
b. onni Kumase (he+(cont)+neg+be-in-a-place Kumase: He
isn't at Kumase)

The negative form does not appear in construction with locative phrases:

13. *ontu sika nni Kumase (cf. 11b).

The negative counterpart of (10) is acceptable:

14. nwoma no nna ɔpono no so na enni akonnua no ho nso
(book the (cont)+neg+lie table the top and it+
(cont)+neg+be-in-a-place chair the exterior also:
The book is not on the table, nor is it on the
chair)

so too is the serial:

15. nwoma no nna ɔpono no so nni akonnua no ho nso (book
the (cont)+neg+lie table the top (cont)+neg+be-
in-a-place chair the exterior also: The book is
not on the chair, and it isn't near the chair)

But we will also find the form:

16. nwoma no nna ɔpono no so wɔ akonnua no ho (book the
(cont)+neg+lie table the top locative chair the
exterior: The book is not on the table near the
chair)

which seems to show that (16) is not a 'true' serial sentence.

In other words joint locatives, in a manner analogous to agentive ergatives, have features characteristic of serial sentences, but are not themselves serial sentences.

There is one further distinction to be drawn: between joint locatives and preposed locative noun modifiers.

Consider the following sentences and noun phrases:

- 17a. efuo no wò nnua no mu (farm the (cont)+be-in-a-place trees the inside: The farm is in the woods)
 b. efuo aa ewó nnua no mu no (farm relative it+(cont)+be-in-a-place trees the inside the: The farm which is in the woods)
 c. nnua no mu efuo no (trees the inside farm the: The farm in the woods)

(a) is a sentence with the locative copula wò; (b) is a noun phrase with an embedded relative clause (aa ewó nnua no mu 'which is in the woods') - note the subjunctive tone on ewó; in (c) the locative phrase has been preposed as a modifier of the head noun efuo no. Note that in the (c) noun phrase we may not have wò anywhere:

- 18a. *wò nnua no mu efuo no
 b. *nnua no mu wò efuo no¹

Another triplet like (17) would be:

- 19a. opono no sɪ mfensere no ase (table the (cont)+stand window the under: The table stands under the window)
 b. opono aa esi mfensere no ase no (table relative it+(cont)+stand window the under the: The table which stands under the window)
 c. mfensere no ase opono no (window the under table the: The table under the window)

Now, the NPs in (17b,c) and (19b,c) may be used as locative complement like other noun phrases:

- 20a. nwoma no da opono aa esi mfensere no ase no so (book the (cont)+lie table relative it+(cont)+stand window the under the top: The book lies on the table which stands under the window)
 b. nwoma no da mfensere no ase opono no so (book the (cont)+lie window the under table the top: The book is lying on the table beneath the window).

1. It will be noted from this example that NPs in locative copulative constructions may not be reversed round the verb - this contrasts with dative copulative constructions where, in some cases, they can - see Chapter VI.

Thus, in fact, sentence (1), which was marked as ungrammatical, might be understood as 'the lamp stands on the chair on the table - i.e. on the chair which is on the table'.

To summarise: syntactically we need to distinguish between three different types of structure:

1. Joint locatives:

21a. nwoma no da fam wɔ akonnua no ho (The book lies on the floor, near the chair = 3a)

2. Complex NPs with preposed locative expressions:

22. nwoma no da mfensere no ase ɔpono no so (The book is lying on the table beneath the window = 20b)

This sentence, but not 21, may be paraphrased by an expression containing a relative clause:

23. nwoma no da ɔpono aa esi mfensere no ase no so (The book lies on the table which is beneath the window).

3. Serial sentences:

24. nwoma no nna ɔpono no so nni akonnua no ho nso (The book isn't lying on the table and it isn't near the chair = 15).

The semantics of such sentences also pose problems: I have attempted to indicate the semantic distinctions made in the glosses. A particularly interesting question, which is merely mentioned and not pursued here, is the fact that in many contexts the distinction between cases (1) and (2) above is a grammatical and probably not a semantic one.

The instances considered thus far all involve positional locatives: we now note that in the same way we may postulate joint directional locatives. Thus we find sentences like:

25a. Kofi dware firii kɔdɔɔ no ho kɔɔ mpoano (Kofi swim+pret come-from+pret boat the exterior go+pret shore: Kofi swam from the boat to the shore)

b. opiaa kaa no firii ne fie no ho koo garage no mu
 (he+push+pret car the come-from+pret his house
 the exterior go+prey garage the inside: He
 pushed the car from his house to the garage).

The distinction between such cases and serial sentences has
 already been pursued in V.3 above.

CHAPTER SIX: DATIVE

VI.1. Introduction

Broadly speaking we may say that a dative case feature bundle typically indicates the "human being affected by the state or action of the verb" (Fillmore, 1968:24). Traditionally the notion of dative has been associated with the notion of an 'indirect object': "the dative object stands after verbs expressing that something is given to or imparted to or bestowed on the object (the subject being the giver and the object the receiver), or that something is taken or elicited from the object (so that the object is the giver)" (Chr:206). Some typical examples include:

- 1a. Kofi kyee me sekan bi (Kofi present+pret me knife a:
Kofi presented me with a knife)
- b. Kofi de sekan bi kyee me (Kofi take knife a present+pret me: Kofi presented me with a knife)
- 2a. Kofi gyaa me kwadu bi (Kofi reserve+pret me bananas some: Kofi reserved some bananas for me)
- b. Kofi gyaa kwadu bi maa me (Kofi reserve+pret bananas some 'give'+pret me: Kofi reserved some bananas for me)
- 3a. aban no agye me sika pii (government the perf+take me money much: The government has taken a lot of money from me)
- b. aban no agye sika pii afiri me nkyen (government the perf+take money much perf+'come-from' me side: The government has taken a lot of money from me)

In each of the above sentences me is considered to realise a dative case feature bundle. It will be clear from the glosses that the dative does not have a unitary semantic interpretation, and from the form of the (b) sentences it will be clear that there are syntactic differences between different kinds of dative. The major subclassifications with which we shall be dealing are referred to as dat(ive) ad(essive):

dat al(lative) and dat ab(lative), corresponding to (1), (2) and (3) respectively.

It will not escape attention that the names given to the different datives are among those that have traditionally been applied to 'local' cases: and, furthermore, it will doubtless be clear that there are some syntactic parallels between the examples shown in (1-3) and various locative frames discussed in the preceding chapter: the adessive dative to the positional locative and the ablative and allative dative to forms of directional locative. The similarity, however, goes further than this, and is discussed in more detail in VI.4.2 below. Immediately, however, we may note that the same combinations of aspect process and case that were discussed for place locatives are also available to adessive datives - and this is exemplified in VI.2.¹

1. In this connection it is perhaps interesting to draw attention to the fact that we might also wish to postulate some relationship between certain types of dative and some ergative constructions. These are perhaps most strikingly illustrated in considering the ablative dative. Thus, if we suppose that ergative NPs introduce the 'initiator' or 'source' of the action described in the verb, then there is a sense in which the ablative dative also introduces the 'source' (though not the initiator) of the action described by certain verbs. This may be correlated with Christaller's remarks above with respect to the fact that certain datives express that "something is taken or elicited from the object (so that the object is the giver)". Compare, with this in mind the functional roles of Kofi and Kwaame in:

Kofi tonn nwoma bi maa Kwaame (Kofi sold a book to Kwaame)

Kwaame too nwoma bi firii Kofi (Kwaame bought a book from Kofi)

In some sense Kofi may be regarded in both sentences as the 'source' of the book, and Kwaame as the receiver of it.

Another set of sentences that are relevant to this question are those discussed in Chapter 4 in a frame $E \ N_c$ (verbs like DO 'love' NIM 'know' etc.). It will be recalled that in such cases the subject noun is not specified as E_a , but simply as E.

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VI.2. The adessive dative

The adessive dative appears in a variety of transitivity frames. Consider first the following sentences:

- 1a. Kofi kyee me duuku bi (Kofi present+pret me handkerchief a: Kofi presented me with a handkerchief)
- b. Kofi de duuku bi kyee me (Kofi take handkerchief a present+pret me: Kofi presented me with a handkerchief)
- a. Kofi kyeree me mfonini bi (Kofi show+pret me picture a: Kofi showed me a picture)
- b. Kofi de mfonini bi kyeree me (Kofi take picture a show+pret me: Kofi showed me a picture)¹

The analysis offered in Chapter II for such sentences was:

2. A: ac E_{a,ag} N_p D_{ad}

and this specification still holds. It will be observed that in some points of syntax these sentences resemble locative sentences discussed in the preceding Chapter, and the resemblance between dative and locative sentences is discussed in more detail in VI.2. below.

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It may be that at a deeper level than we are concerned with in this work such sentences may be related to dative frames. Indeed Anderson (1971) has made suggestions of this sort with respect to English. To adopt some of his terminology one might perhaps consider the ablative dative as in some respects a 'dative ergative' to capture this relationship; and the subject of verbs like DO might be subcategorised as an 'ergative dative'.

However, in line with our stand on other relationships, like that between the one and two-place frames for ergative verbs this is regarded as a semantic relationship, and we do not discuss it further here.

1. The potential distinction between this pair of sentences has already been noted. The distinction which may be drawn is between what may be glossed as 'Kofi pointed out (= showed) me a picture' (a) and 'Kofi brought me (= showed) me a picture' (b): these glosses are not very satisfactory, but perhaps do indicate that in the (a) case Kofi may not have the picture in his hand, but is demonstrating it, whereas in the (b) case Kofi probably has the picture to hand.

The adessive dative is not, however, always associated with an agentive ergative in three place sentences. Thus in the following sentences, all of which involve 'illocutionary' verbs the agentive ~~dative~~ is impossible:

3a. obuaa me asem bi (he+answer+pret me matter a: He gave me an answer)

b. okaa me asem bi (he+tell+pret me matter a: He told me something)

but not:

4a. *ode asem bi buaa me

b. *ode asem bi kaa me

etc. The transitivity frame here is analysed as:

5. A: ac E_a N_p D_{ad}

Consider next the following set of sentences:

6a. omanee me sika bi (he+send+pret me money some: He sent me some money)

ode sika bi manee me (he+take money some send+pret me)

b. omanee me (he+send+pret me: He gifted me; he made me a gift)

c. omanee sika bi (he+send money some: He sent some money)

ode sika bi maneye (he+take money some send+pret)

The (a) sentences are analysed as developing from a transitivity structure (2). The (b) and (c) sentences present us with the same set of problems that we have discussed elsewhere: does the underlying transitivity frame contain a case feature bundle that is realised as an NP which is later deleted, or does it not? As before, I favour the latter solution. Consider first the (b) sentence. If the object of verbs like KYE in (1) is pronominalised, then that form of the sentence which involves the agentive auxiliary is obligatory, and furthermore, the object pronoun, if it is inanimate is deleted:

7a. ode kyee me (he+take (it) present+pret me: He
present it to me)

b. *okyee me no

c. *okyee me.

Similarly, with MANE, we find:

8. ode manee me (he+take (it) send+pret me: He sent it
to me)

which is understood as though a definite object were referred to; (6b) cannot be thus understood. Following the same line of reasoning as has been developed before it is therefore supposed that (b) derives from an underlying two-place structure, which I have attempted to capture in the gloss. The same reasoning leads to the supposition that the (c) sentences also derive from a two-place structure - this time with no underlying dative. Again we may note the contrast with verbs like those illustrated in (1), since for them there are no sentences:

9. *okyee duuku bi

*ode duuku bi kyeye.

It is interesting to observe that Christaller (Dict) glosses MANE (under the entry mana, p. 305,a) as "to send a thing or things as occasion offers ..."; MA, by contrast, is glossed (p. 302, a) "give, hand, communicate, bestow...". The situation discussed above is not unlike the case with DI 'to dine' (intransitive) 'to eat --' (transitive): the discussion on incorporation etc. in Chapter II is relevant here.

A somewhat different syntactic paradigm is seen in the following set of sentences:

10a. ofem sika (he+(hab)+lend money: He lends money, he
is a moneylender)

ode sika fem (he+take money (hab)+lend: He lends
money, he is a moneylender)

b. ofemm me sika bi (he+lend+pret me money some: He lent me some money)¹

ode sika bi femm me (he+take money some lend+pret me: He lent me some money)

The proposed transitivity frames here are:

11a. A: ac E_{a,ag} N_p

b. A: ac E_{a,ag} N_p D_{ad}

Note that with FEM there is no sentence:

12. *ofemm me

The sentence involving object deletion is, of course:

13. ode femm me (he+take (it) lend+pret me: He lent it to me)

The frames examined thus far have all been active frames. We now turn to examine some sentences involving both stative and active frames:²

1. In fact this sentence is ambiguous since FEM can mean either borrow or lend: the two interpretations are 'he lent me some money' and 'he borrowed some money from me'. The 'lend' interpretation has the syntactic paradigm illustrated here: the 'borrow' interpretation involves an ablative dative, which is further discussed in VI.3 below. Note, however, that under the 'borrow' interpretation the syntactic paradigm includes sentences like:

ofemm me sika bi (He borrowed some money from me)
ofemm sika bi firii me nkyen (He borrowed some money from me)

The sentence:

ode sika bi femm me (He lent me some money) cannot have the sense 'borrow'.

2. Verbs glossed as 'wear' have collocational restrictions which appear to depend on the type of action involved in putting on the garment in question. Thus FURA is appropriate to 'native cloth' dresses and other garments which may loosely be said to be wrapped round the person; BO is appropriate to watches, belts and other items which are strapped on; HYE to hats, shoes etc. in which some portion of the body may be hidden.

It may be noted that the starred sentence in (b) is only impossible in the sense intended: i.e. with a stative verb in a three place sentence with this sense. It would be acceptable in the sense 'Kofi is wearing a dress of Amma's' when it would have the same structure as the first sentence in (11a). However, there is a tonal distinction which is important between the genitive noun phrase ám'má átadeé (Amma's dress) and the sequence of dative and

[Contd.]

There are a number of complications to the analysis of the sentences (14) which largely stem from the fact that one form of the sentences (a) and (c) is identical in terms of its constituency structure (NP + vb + NP): the distinction in the frames being in their syntactic paradigm and the possibility of their admitting different verb forms. atadeɛ bi, in (a) and (b) and ntoma bi in (c) realise nom pass case feature bundles. Amma in (a) and (b) realises a dat ad nom case feature bundle. Kofi in (b) and (c) realises an erg, ac, ag case feature bundle. The (a) sentences are all stative: note the continuative form fùrà, and the 'past' stative with ná ... fùrà. In stative sentences of the sort illustrated in (a) the NPs are reversible round the verb: note the impossible reversal with the progressive form (starred in (a)). The (b) sentences are all active: note that in this frame we will not find the continuative form fùrà (cf. discussion in note). These sentences, as shown, take an agentive ergative; and as we have already noted the agentive ergative does not co-occur with the continuative (i.e. there is no sentence *Kofi de atadeɛ bi fùrà Amma). The (c) sentences are again active, and again with an agentive ergative: thus, as before, we will not find a sentence *Kofi de ntoma bi fùrà. Nor in active two-place sentences are subject and object reversible round the verb: compare the ungrammaticality of the fourth sentence in (14a) with the grammaticality of the second. From the foregoing account it can be inferred that the relationship between the (a) and (b) frames is considered to be an ergative one. What then of the position of the (c) sentence? First we may observe

that this sentence is, as it were, 'understood reflexively'.

We may also observe however that a sentence like:

16. *Kofi de ntoma bi furaa ne ho (?Kofi dressed himself
in a cloth)

is ungrammatical. This being the case it is presumed that the analysis of sentences like (14c) does not involve a 'deleted' reflexive, in the sense in which we have discussed sentences involving verbs like DWARE in IV.3.4. or at least not a deleted reflexive in the syntax, for reasons similar to those which have been advanced against other 'irrecoverable' deletions. There is, however, clearly a relation between the (a) and the (c) frames. Thus, if we describe the relation between:

- 17a. Amma fùrà atadee bi (Amma (cont)+wear dress a: Amma
is wearing a dress)
b. Kofi afura Amma atadee bi (Kofi perf+dress Amma a:
Kofi has dressed Amma in a dress)

as ergative, what of the relation between:

- 18a. Kofi fùrà ntoma bi (Kofi (cont)+wear cloth a: Kofi
is wearing a cloth)
b. Kofi afura ntoma bi (Kofi perf+put-on cloth a: Kofi
has put on a cloth).

In (17a,b) Amma is in both cases dative, and Kofi is introduced as 'a new ergative subject', but in (18a) Kofi is dative, and in (18b) it is ergative, and there is no dative in the syntax. We might describe such a situation as 'quasi-ergative' in that the ergativisation involves not the addition of an additional ergative subject, but the change of case of an NP to ergative - a situation we have already observed and one we shall meet again (cf. 19-27 below). As with other ergative and causative constructions we must

suppose that such sentences may be more closely related in terms of semantic operations carried on before the level of functional structure.

Consider next the following set of sentences:

- 19a. Kofi kità poma bi (Kofi (cont)+hold stick a:
Kofi is holding a stick)
b. poma bi kità Kofi (stick a (cont)+hold Kofi:
Kofi is holding a stick)
- 20a. wofàtà atadee yi (you+(cont)+suit dress this: This
dress suits you)
b. atadee yi fàtà wo (dress this (cont)+suit you:
This dress suits you)

It will be observed that this set of sentences, like those examined in (14a), are stative (note the continuative form of the verb) and that once more the NPs are reversible round the verb. Accordingly they are analysed as:

21. S: desc N_p D_{ad,n}.

FATA does not appear in another transitivity frame, but KITA, and some other verbs, like FUA and KURA:

22. ofua pea (he+(cont)+carry spear: He is carrying a spear)
okura poma bi (he+(cont)+grasp stick a: He is grasping
a stick, he has a stick in his hand)

will, like FURA in (14c) also permit an active form:

23. okitaa poma bi (he+grasp+pret stick a: He took hold
of a stick)

Once more, the active sentences do not permit reversibility of the NPs:

24. *poma bi kitaa no.

Like FURA, the ergative subject of KITA in active sentences is also agentive: thus we may have the sentence:

25. ode poma bi kitaye (he+take stick a grasp+pret: He
grasped a stick)

Accordingly FATA is analysed as appearing only in the transitivity frame (21), but KITA appears in both of the frames:

26. S: desc N_p $D_{ad,n}$

27. A: ac $E_{a,ag}$ N_p

poma bi is analysed as the N_p NP in both (19a) and (23); Kofi in (19a) is analysed as $D_{ad,n}$, and the pronoun o- ('he') in (23) is analysed as E_a . It will be noted that in this case again we have a relationship between an adessive dative and an ergative case feature bundle.

The characterisation of the adessive dative as dat ad nom has already been discussed in Chapter II: where it was suggested that the subjectivisation open to the dative NP is accounted for by the secondary classification of the dative as nom. Not all adessive datives are subclassified thus. Consider the following sentences:

28. efun no bon me (corpse the (hab)+smell me: I smell
the corpse)

okom de me (hunger (cont)+take me: I am hungry)

woha me (you+(hab)+annoy me: You annoy me)

In none of these cases are there parallel ergative constructions (as with KITA), nor are the NPs reversible round the verb:

29. *mebon efun no (I+(hab)+annoy you: Unless this may be interpreted as 'I smell to the corpse' (sic))

meha wo ('I annoy you' NOT 'you annoy me').

It may further be observed that these verbs do not take the allative or illative auxiliaries (cf. VI.3 below):

30. *efun no bon ma me.

Accordingly these sentences are analysed as deriving from

the following transitivity frames (depending on whether they are stative or active):

- 31a. A: desc N_p D_{ad} (e.g. B>N)¹
 b. S: desc N_p D_{ad}

The irreversibility of the datives in these cases is thus attributed to the fact that the case feature bundles which underlie them are not secondarily classified as nom.

At this point we may compare some dative sentences where the NPs are reversible round the verb, with reciprocal sentences, which also exhibit the same syntactic behaviour (cf. discussion in Chapter IV.4.3). Consider the sentences:

- 32a. owu se no (death (cont)+worthy him: He is worthy of death)
 b. ose owu (he+(cont)+worthy death: He is worthy of death)

SE here is regarded as a dative verb like FATA noted in (20a) above in a transitivity frame like (21). It may be distinguished from SE used as a reciprocal verb (cf. Chapter IV.4.3). In the latter case we will attest the sentences:

- 33a. ose n'agya (he+(cont)+resemble his'father: He resembles his father)
 b. n'agya se no (his'father (cont)+resembles him: He resembles his father)
 c. one n'agya se (he+and his'father (cont)+resemble: He resembles his father)

With symmetrical reciprocals, like SE, the two NPs concerned may either straddle the verb, in any order, as in (a,b) above, or may be conjoined as subject, as in (c). With dative verbs in the stative, the NPs may straddle the verb in any

1. BON has already been discussed, in another context, in Chapters II and III.

order, as in (32a,b), but may not be conjoined as subject.
Thus a sentence like:

34. one owu se

can only be interpreted as 'he and death resemble each other', which might be meaningful in some context, a folk tale perhaps, but has nothing to do with the dative sense of SE shown in (32).

Another dative frame, this time involving an action rather than a descriptive verb may be seen in a sentence like:

35a. A: ac N_p D_{ad}

b. oresu ne maame (he+prog+weep his mother: He is weeping for his mother)

Like sentences deriving from frame (31) the NPs are not reversible round the verb (without change of meaning), but unlike them the verb is active - hence the progressive form of the verb.

The last dative frames that we shall consider can be illustrated by sentences like:

36a. A: inch N_p D_{ad}

b. wo ho refono me (your exterior prog+disgust me: I am becoming fed up with you)

ne ho refom no (his exterior prog+disgust him: He is getting dejected)

and their stative counterparts:

37a. S: inch N_p D_{ad}

b. wo ho afono me (your exterior perf+disgust me: I am disgusted with you)

ne ho afom no (his exterior perf+disgust him: He is dejected)

The analysis of sentences like these presents certain problems in terms of the derivation of the NPs in subject position in each sentence. They are discussed more fully in VI.4.4.

VI.3. The allative and ablative dative

In VI.1 we noted that in addition to the adessive dative, discussed in the previous section, there are also allative and ablative dative constructions. We also noted that there are some parallels, both notional and syntactic between such datives and the directional locatives discussed in Chapter V. The basic notional distinction that may be drawn is in Christaller's words (cf. VI.1) that the allative dative "expresses that something is given ~~to~~ or imparted to or bestowed on the object (the subject being the giver and the object the receiver)" and the ablative dative "~~that something~~ is taken or elicited from the object (so that the object is the giver)" (Chr:206). The allative dative may be illustrated in sentences such as:

- 1a. Kofi gyaa me kwadu bi (Kofi reserve+pret me bananas
some: Kofi reserved some bananas for me)
- b. Kofi gyaa kwadu bi maa me (Kofi reserve+pret bananas
some give+pret me: Kofi reserved some bananas
for me)
- a. Kofi hyee me aduru bi (Kofi administer+pret me
medicine some: Kofi administered some medicine to me)
- b. Kofi hyee aduru bi maa me (Kofi administer+pret medicine
some give+pret me: Kofi administered some medicine
to me)

Here it will be noted that the dative case feature bundle (realised in all cases by me 'me') is either embedded directly after the verb, or is introduced by the auxiliary MA. The ablative dative may be illustrated by sentences such as:

- 2a. aban no agye sika pii afiri won ho (government the
perf+take money much perf+come-from them
exterior: The government has taken a lot of money
from them)
- b. aban no agye won sika pii (government the perf+take
them money much: The government has taken a lot
of money from them)

- a. Kofi serɛɛ kapre bi firii won nkyɛn (Kofi beg+pret penny a come-from+pret them side: Kofi begged a penny from them)
- b. Kofi serɛɛ won kapre bi (Kofi beg+pret them penny a: Kofi begged a penny from them)

In this case it will be observed that the dative case feature bundle (realised by won) is either embedded directly after the verb, in the (b) sentences, or is introduced by the auxiliary FIRI and is in construction with a 'locative' particle (ho, nkyɛn).

Let us first briefly consider the allative dative construction. Note first that the allative dative does not have, as the adessive dative sometimes does, an alternative form involving the agentive auxiliary de:

- 3. *Kofi de aduru bi hyɛɛ me.

Conversely, of course, the adessive dative does not involve the auxiliary MA:

- 4a. Kofi kyɛɛ me sekan bi (Kofi present+pret me knife a: Kofi presented me with a knife)
- b. Kofi de sekan bi kyɛɛ me (Kofi take knife a present+pret me: Kofi presented me with a knife)
- c. *Kofi kyɛɛ sekan bi maa me.

Equally we may note that, in general, verbs which take an allative dative do not take the ablative auxiliary FIRI:

- 5. *Kofi hyɛɛ aduru bi firii me.

There are, however, as we shall see, a few verbs that may take either an allative or an ablative dative: in these cases the embedded form (as illustrated in the sentences (1a) and (2b)) becomes ambiguous.

It is also of interest to note that the auxiliary involved in the allative dative is MA. This is identical to the 'free' verb MA 'give' used as an adessive dative verb:

6. ode nwoma bi maa me (he+take book a give+pret me: He gave me a book).

The syntax of MA as an auxiliary is however different from its use as a 'main' verb, as we shall see when we come to discuss the derivation of sentences involving the allative dative. It is also the auxiliary used in the 'benefactive' adverbial:

7. owu maa ne man (he+die+pret 'give'+pret his state: He died for his country)

The distinction between benefactive and dative is discussed in VI.4.3 below.

The postulated transitivity frame for the sentences in (1) is:

8. A: ac E_a N_p D_{al}

Most allative dative verbs involve three place transitivity frames:

- 9a. Kofi tusa me ka (Kofi pay+pret me debt: Kofi paid me a debt)
 Kofi taa ka maa me (Kofi pay+pret debt give+pret me: Kofi paid me a debt)
- b. Kofi gyaa ne ba no fie bi (Kofi leave+pret his son the house a: Kofi left his son a house)
 Kofi gyaa fie bi maa ne ba no (Kofi leave+pret house a give+pret his son the: Kofi left his son a house)
- c. wayi ohene to (they+(hab)+pay chief tax: They pay tax to the chief)
 wayi to ma ohene (they+(hab)+pay tax (hab)+give chief: They pay tax to the chief)

We now turn to look at the ablative dative. As with the allative dative there is no alternative form involving the agentive auxiliary:

- 13a. Kofi gyee me sika (Kofi take+pret me money: Kofi took money from me)
 Kofi gyee sika firii me ho (Kofi take+pret money come-from+pret me exterior: Kofi took money from me)

but not:

14. *Kofi de sika gyee me.

It will be observed that the ablative auxiliary is FIRI, and that this is identical with one of the directional locative auxiliaries:

15. otwee asau no firii nsuo no mu (he+pull+pret net the
come-from+pret water the inside: He pulled the
net out of the water).

The parallelism with the locative expression is heightened by the fact that when the ablative dative is introduced with the auxiliary the dative expression is generally modified by a particle (ho, nkyen) which may also be used in locative expressions, as we have noted in Chapter V. Note however that the dative expression loses its particle on embedding, and the locative can neither be embedded nor lose its particle.¹ Further discussion of the relation between locative and dative is found in VI.4.2 below.

The postulated transitivity frame for the sentences in (2) is:

16. A: ac E_a N_p D_{ab}

All examples of verbs involving the ablative dative that I have found involve three place frames:

17a. onyaa fie bi firii n'agya no ho (he+inherit+pret
house a come-from+pret his'father the exterior:
He inherited a house from his father)

-
1. The sentence otwenn nsuo no mu asau no, which may appear to have the locative embedded in a manner similar to the dative in (13a), is understood differently. In the first place nsuo no mu asau no is here a single constituent with an adnominal locative 'the net in the water': this may be considered to be a reduction from a locative relative clause: asau aa ewo nsuo no mu no (lit.; net(rel it is water the in) the: 'the net which is in the water') cf. V.4.4. for details of adnominal locatives. In the second place, the locative particle mu cannot be deleted in such a construction: i.e. NOT *otwenn nsuo no asau.

- b. onyaa n'agya no fie bi (he+inherit+pret his father
the house a: He inherited a house from his
father).

There are some verbs that may take either the allative or
ablative dative:

- 18a. Kofi serɛɛ kapre bi firii me (Kofi beg+pret penny a
come-from+pret me: Kofi begged a penny from me)
b. Kofi serɛɛ kapre bi maa me (Kofi beg+pret penny a
give+pret me: Kofi begged a penny for me)
c. Kofi serɛɛ me kapre bi (Kofi beg+pret me penny a:
Kofi begged a penny from/for me).

And note FEM which may appear with either the adessive or
the ablative dative:

19. ɔde sika bi femm me (he+take money some lend+pret me:
He lent me some money)
20. ɔfemm sika bi firii me nkyen (he+borrow+pret money some
come-from me side: He borrowed some money from me)

Both constructions may embed the item introduced by the
auxiliary: thus we find the sentence:

21. ɔfemm me sika bi (he+lend/borrow+pret me money some:
He lent me some money/he borrowed some money
from me).

VI.4. Further aspects of the syntax of dat NPs.

VI.4.1. Word Order

As we have seen in preceding sections, datives embedded
within the sentence generally immediately follow the verb:

- 1a. Kofi kyɛɛ me nwoma bi (Kofi present+pret me book a:
Kofi presented me a book)
b. Kofi de nwoma bi kyɛɛ me (Kofi take book a present+
pret me: Kofi presented me a book)
2. obisaa me asem bi (he+ask+pret me matter a: He asked
me a question)
3. okom de me (hunger (cont)+take me: I am hungry)

and any other order is impossible, except for nominative dative

NPs which, in stative sentences, may either precede or follow the verb:

- 4a. atadee yi fata wo (dress this (cont)+suit you: This dress suits you)
 b. wofata atadee yi (you+(cont)+suit dress this: This dress suits you)

With the allative and ablative dative, the dative, when introduced by its own auxiliary always immediately follows it:

5. Kofi gyaa kwadu bi maa me (Kofi reserve+pret bananas some give+pret me: Kofi reserved some bananas for me)

With the adessive dative, when the transitivity frame will permit alternative orderings (i.e. when there is an agentive ergative) there are certain restrictions on word order which appear to correlate with definiteness and with features of pronominalisation (cf. discussion in Stewart, 1963a). Thus note the following sentences:

- 6a. ode nwoma bi maa Kofi (he+take book a give+pret Kofi: He gave Kofi a book)
 b. omaa Kofi nwoma bi (he+give+pret Kofi book a: He gave Kofi a book)
 7a. ode nwoma maa Kofi (he+take books give+pret Kofi: He gave Kofi books)
 b. omaa Kofi nwoma (he+give+pret Kofi books: He gave Kofi books)
 8a. ode nwoma no maa Kofi (he+take book the give+pret Kofi: He gave Kofi the book)

but not:

- 8b. *omaa Kofi nwoma no.

It will be observed that agent raising is inhibited when the nominative NP is definite. Similar sentences with verbs like KYE (present) FEM (lend) MA (give) KYERE (show) elicit the same judgement as to grammaticality. With other verbs there does not appear to be the same restriction: thus both

of the following sentences are judged to be acceptable:

- 9a. ode atadee no furaa Amma (he+take dress the dress+pret Amma: He dressed Amma in a dress)
 b. ofuraa Amma atadee no. (he+dress+pret Amma dress the: He dressed Amma in a dress)

There are similar restrictions with pronominalisation. If the nominative NP is pronominalised and inanimate, it may also be deleted. The deletion is, however, only possible when agent raising has not applied:

- 10a. ode nwoma bi maa Kofi (he+take book a give+pret Kofi: He gave Kofi a book)
 b. ode maa Kofi (he+take (it) give+pret Kofi: He gave it to Kofi)
 c. *omaa Kofi (He gave it to Kofi)

When it is the dative NP that is pronominalised we find sentences like:

- 11a. ode nwoma bi maa no (he+take book a give+pret him: He gave him a book)
 b. omaa no nwoma bi (he+give+pret him book a: He gave him a book)
 12a. ode nwoma no maa no (he+take book the give+pret him: He gave him the book)

but not:

- 12b. *omaa no nwoma no.

When both NPs are pronominalised, then the structure with the agentive auxiliary is obligatory:

- 13a. ode maa no (he+take (it) give+pret him: He gave it to him)

not

- 13b. *omaa no
 *omaa no no.

VI.4.2. Dative and Locative

It will be clear that there are close syntactic parallels between some datives and some locatives, there are also some semantic similarities. There are, however, also sufficient semantic and syntactic differences to warrant their separation as distinct case feature bundles at least at the level of functional structure with which we are dealing here. It is conceivable that at a 'deeper' level of semantic structure they are more closely related, and indeed, as we have already noted, dative and locative are considered, at the level of functional structure, to be in complementary distribution. This complementarity is within the nucleus: there is no restriction on benefactive adverbials co-occurring with locative sentences, or locative adverbials with dative sentences:

1. Kofi de ntoma bi furaa Kwaame (wo) sotoo no mu (Kofi take cloth a dress+pret Kwaame (locative) store the inside: Kofi dressed Kwaame in a cloth in the store)
2. Kofi de kanea bi sii opono no so maa me (Kofi take lamp a stand+pret table the on 'give'+pret me: Kofi put a lamp on the table for me)

There is also, as we have noted, a close relationship between the place adverbial and the locative complement, and between dative case feature bundles and benefactive adverbials.

The syntactic parallels between dative and locative case feature bundles are most clearly seen in comparing the place locative and the adessive dative, and the directional locative and the ablative dative. We examine each case briefly in turn.

First we look at adessive datives and place locatives. Consider the following pairs of sentences:

3a. Kofi fura ntoma bi (Kofi (cont)+wear cloth a: Kofi is wearing a cloth)

b. Kwaame de ntoma bi furaa Kofi (Kwaame take cloth a dress+pret Kofi: Kwaame put a cloth on Kofi; Kwaame dressed Kofi in a cloth)

4a. kanea bi si opono no so (lamp a (cont)+stand table the top: There is a lamp on the table: a lamp is standing on the table)

b. Kwaame de kanea bi sii opono no so (Kwaame take lamp a stand+pret table the top: Kwaame put a lamp on the table, Kwaame stood a lamp on the table).

The syntactic parallelism here is striking. Each of the (a) sentences is stative; each of the (b) sentences is active.

There is an ergative relationship between each pair of sentences, that involves agentivisation. At this point, however, the similarities begin to disappear. The stative dative sentence (3a), which involves a nominative dative is reversible round the verb:

5. ntoma bi fura Kofi.

Such a reversal is not however possible for the locative sentence (3b):

6. * opono no so si kanea bi.

Again the dative sentence is, under certain conditions, subject to the deletion of the agentive auxiliary:

7. Kwaame furaa Kofi ntoma bi.

This structure is not open either to the locative sentence:

8. *Kofi sii kanea no opono no so

*Kofi sii opono no so kanea.

(Note also the word order in the dative sentence). Finally we may note that the NP in the locative complement is in construction with an obligatory locative particle (unless the NP is itself a place noun): by contrast the nominative dative does not take a similar particle:

9. *Kwaame de ntoma bi furaa Kofi ho.

Clearly, then, with this class of dative and locative sentence, while there are parallels, there are also differences. These differences are considered sufficiently striking to warrant the distinction drawn here.

The semantic parallels are equally apparent, and can be enhanced by a judicious choice of examples, helped along by appropriate glossing! Consider, for example, sentences like:

10. Kofi kita poma bi (Kofi (cont)+hold stick a: Kofi is holding a stick)

- 11a. Amma so nneema (Amma (cont)+carry-on-head things: Amma is carrying things on her head)

- b. Kofi de nneema soaa Amma (Kofi take things put-on-head+pret Amma: Kofi loaded Amma up - i.e. put things on her head).

Whatever the semantic of such expressions, syntactically they are parallel to the datives examined in (3ff.):

12. poma bi kita Kofi

- 13a. nneema so Amma

- b. Kofi soaa Amma nneema.

Turning to the ablative dative, the parallel is in some ways even more striking. Thus compare the sentences:

14. Kofi gyee sika no firii me ho (Kofi take+pret money the come-from+pret my exterior: Kofi took the money from me)

15. Kofi twee asau no firii nsuo no mu (Kofi pull+pret net the come-from+pret water the inside: Kofi pulled the net from the water).

As with the adessive dative, the most striking syntactic difference between these sentences lies in the fact that the dative in (14) may be embedded within the sentence, whereas the locative in (15) may not:

16. Kofi gyee me sika no

17. *Kofi twee nsuo no mu asau.

(With respect to the grammatical status of (17) cf. discussion in ^{V.4.4}note ~~to IV.3(18)~~. We may also observe that when the ablative dative in (14) is embedded within the sentence it loses its particle. A further distinction lies in the fact that the directional locative in (15) may be replaced by a different directional auxiliary:

18. Kofi twee asau no twaa asubonten no mu (Kofi pull+pret net the cross+pret river the inside: Kofi pulled the net across the river).

The adessive dative in (14) can only be found with the auxiliary FIRI.

Finally we may note some syntactic parallelisms between the dative and locative 'copulative' verbs. This is a difficult area and one which has not been fully explored. There is, however, an interesting discussion in Ellis and Boadi, 1969:27ff. The difficulties arise because of the fact that both dative and locative may have the copula wɔ:

- 19a. ɔwɔ fie (he+(cont)+wɔ house: He is at home)
 b. ɔwɔ fie (he+(cont)+wɔ house: He owns houses)

or, to use one of Ellis and Boadi's examples (1969:28):

- 20a. nnipa wɔ sukuu (people (cont)+wɔ school: The people are at school)
 b. nnipa wɔ sukuu (people (cont)+wɔ school: The people have a school).

"The problem is whether one is dealing with the same linguistic item or different but homophonous ones" (Ellis and Boadi, 1969:28). The problem is further compounded by the fact that both constructions, if there are indeed two, are subject to ordering restrictions, dependent on the definiteness etc. of the NPs involved (cf. VI.4.1 above) and whether one of the constituents is, or is not, a locative phrase in the sense

of Chapter IV.2. (one of the problems in (19,20) is that fie and sukuu are place nouns). In the dative sense we may note the following sentences:

- 21a. mewo fie bi (I+(cont)+wɔ house a: I own a house)
 b. fie bi wɔ me (house a (cont)+wɔ me: I own a house)
- 22a. mewo fie (I+(cont)+wɔ house: I own houses)
 b. *fie wɔ me
- 23a. *mewo fie no
 b. fie no wɔ me (house the (cont)+wɔ me: I own the house, the house belongs to me)

In the locative sense note:

- 24a. ɔwo ofie no mu (he+(cont)+wɔ house the inside: He is in the house)
 b. *ofie no mu wɔ no

Here the ordering restrictions are consonant with those noted elsewhere for dative and locative expressions. We note, however, that sentences with locative constituents are, sometimes, reversible round the verb:

- 25a. afuo no mu wɔ nnua (farm the inside (cont)+wɔ trees:
 The farm has trees on it)
 b. nnua wɔ afuo no mu (There are trees on the farm)
- a. ɔkwan no mu wɔ nnipa (road the inside (cont)+wɔ
 people: the road is full of people)
 b. nnipa wɔ ɔkwan no mu (There are people in the road)

Here the ordering appears to be connected with questions of topicalisation, as I have tried to indicate with the glosses given.¹

1. It will also be clear from the glosses that these structures are also to be regarded as 'existential' sentences, and indeed that a full consideration of such sentences would need to take account of all forms of 'copulative' construction. Ellis and Boadi do indeed discuss such constructions.

The conclusion to which Ellis and Boadi come is that "It would seem ... that w₀ - Locative and w₀ - Non-Locative complement each other syntactically. There is a sense in which (they) ... can be said to differ, but such a statement is valid at one level of description only. At another level the items are the same since, considered in relation to one another, they occur in predictable linguistic environments" (1969:29-30). This conclusion is compatible with the remark made at the beginning of this section: at the level of functional structure dative and locative are considered to be in complementary distribution, and at a deeper level are possibly even more closely related. However, it still seems that, for our purposes, it is useful to distinguish dative and locative.

VI.4.3 Dative and Benefactive

Just as there is a relationship between locative cases and the place adverbial, so there is a relationship between dative and benefactive adverbials. As with the locative case, it is not easy to draw a hard and fast distinction between them, and it is not, indeed, clear whether it is either desirable or possible to do so. There are, however, cases where it is possible to draw the distinction. The benefactive is marked by the use of the 'auxiliary' MA:

- 1a. okyeame kasa ma ne ohene no (linguist (hab)+speak (hab)+
'give' his chief the: A linguist speaks on
behalf of his chief)
- b. Kofi wu maa ne man no (Kofi die+pret 'give'+pret his
state the: Kofi died on behalf of his country,
for his country).

and benefactive constructions may themselves co-occur with

sentences involving dative case feature bundles:

2. yede kyerew kronkron nwoma bi kyee no maa asorema no
 (they+take writing holy book a present+pret him
 'give'+pret congregation the: He was presented
 with a bible on behalf of the congregation)

as they co-occur with sentences involving locative and other cases (as in (1) above) or:

3. fa me kootu no sen spono no so ma me ((opt)+take my coat
 the (opt)+hang door the top (opt)+'give' me: Hang
 my coat on the door for me).

The adessive dative, as we have already noted, does not involve an alternative construction using the auxiliary MA, or any other auxiliary. Thus a sentence like:

4. efun no bon me (corpse the (hab)+smell me: I smell the
 corpse)

has no alternative form:

5. *efun no bon ma me.

And conversely there is no sentence like:

6. *Kofi wuu ne man no

to be correlated with (1b). The difficult case, of course, involves the allative dative, since such sentences do involve an alternative form with the auxiliary MA:

- 7a. Kofi gyaa me kwadu bi (Kofi reserve+pret me bananas
 some: Kofi reserved some bananas for me)
 b. Kofi gyaa kwadu bi maa me (Kofi reserve+pret bananas
 some 'give'+pret me: Kofi reserved some bananas
 for me)

cf. N 3. (1).

One characteristic of the allative dative appears to be that the dative may either be introduced by the auxiliary or be embedded within the sentence without auxiliary (as illustrated in (7): As we have already noted the benefactive in (1) is not capable of being embedded without the auxiliary (cf. the ungrammaticality^d_L (7)). However, this is not always

the case. Thus note that in addition to the sentence (3), with the benefactive introduced by the auxiliary, we find a sentence:

8. fa me kootu no sen me opono no so ((opt)+take me coat
the (opt)+hang me door the top: Hang my coat on
the door for me)

where me is embedded within the sentence between the main verb and the locative expression. In general it seems that such a construction is possible with 'agentive locative' sentences, like (8) or:

- 9a. ode aduane no sii opono no so maa me (he+take food the
stand+pret table the top 'give'+pret: He put the
food on the table for me)
b. ode aduane no sii me opono no so (he+take food the pret+
stand me table the top: He put the food on the
table for me)

and with some other types of construction:

- 10a. ko me nsuo ((opt)+go me water: Go and fetch water
for me)
b. ko nsuo ma me ((opt)+go water (opt)+give me: Go and
fetch water for me).

Several questions now arise: are the structures illustrated here paraphrases of each other? If they are paraphrases of each other are they to be analysed as datives or benefactives? If they are analysed as datives, then do we have a four-place construction which is contrary to our original hypothesis with respect to the complementary distribution of dative and locative, or do we suppose that they derive from more complex underlying structures? If they are not datives then are we justified in positing an allative dative at all? Let us look at each question in turn.

With respect to the question of paraphrase, note that a pair of sentences like:

11a. Kofi suu ne maame (Kofi weep+pret his mother: Kofi wept for his mother)

b. Kofi su maa ne maame (Kofi weep+pret 'give'+pret his mother: Kofi wept on behalf of his mother, for his mother)

are not considered to be paraphrases: the former is considered to be an adessive dative, as in (4), and the latter a benefactive: (11a) would be appropriate if, say, Kofi's mother had died and he was weeping for her; (11b) would be appropriate in some situation where Kofi wept because his mother couldn't or wouldn't. However, if we now consider a pair of sentences like (7) ⁵there do appear to be paraphrases since it does not seem to be possible to draw a distinction between them along the lines of the distinction between (11a, b) or analogously. (9a,b) fall somewhere between: (9a) would appear to be more appropriate if 'I' were the cook and 'he' were asked to put the food on the table in order to help me, say. But (9b) might be more appropriate if 'I' were at table and 'he' put the food on the table for me. On the other hand either sentence might appropriately be used in either situation. One might suggest that the embedded forms (9a,10a) have a more 'adessive' interpretation than the expanded forms (9b,10b) which might be said to have a more benefactive sense: but the distinction is extremely tenuous, and though it may be observed, just, in (9) it has almost vanished in (10).¹ In

1. A comparable problem arises in English in similar sentences. The reader is invited to consider groups of sentences like:

He gave me a book; he gave a book to me; he gave a book for me (in the sense intended)

He sang me a song; he sang a song for me; he sang a song to me

He baked me a cake; he baked a cake for me; *he baked a cake to me

He fetched me a waiter; he fetched a waiter for me; he fetched a waiter to me.

the case of those sentences classified as allative datives there appears to be a paraphrase relation between the alternative forms of the sentences, as in (7). It appears then that in (1) we are dealing with a 'true' benefactive; in the case of adessive datives like (4) we are dealing with what might be called the 'central' dative and in the case of items like (7-10) there is a 'cline' between items like (7) and those like (8). In the case of items like (7) it seems reasonable to suppose that the allative dative is 'inherent' whereas in the case of items like (3,8) the benefactive is extranuclear.

These arguments are not conclusive, and clearly further research is necessary in this area: the best that can be said at this time is that the distinction between 'nuclear' benefactives and 'nuclear' datives seems to be well established (compare 1-4): the distinction between the allative and the benefactive is less firmly grounded.

VI.4.4. Reflexive NPs

In IV.3.4 we discussed reflexive sentences like

1. Kofi piraa ne ho (Kofi wound+pret his exterior: Kofi wounded himself)

and it was supposed that such sentences derive from an underlying two-place structure that was represented as:

2. Kofi₁ piraa Kofi₁

where the reference of subject and object is identical (represented by the subscripted referential indices). It will further be recalled that reflexivisation is restricted to nom NPs and involves the pronominalisation and genitivation of

the relevant NP and the addition of the particle ho.

We also discussed sentences like

3. ne ho twa (his exterior (hab)+quick: He is quick)

which it was proposed derives from an underlying range particle ho in construction with the subject NP.

Consider now a sentence like:

4. Kofi ho fono me (Kofi exterior (hab)+disgust me: Kofi disgusts me).

A similar analysis is proposed: Kofi ho derives from an underlying nom with a range particle, me is an underlying dative. In this respect the relevant frame:

5. A: desc $N_{p,pt}(ho)$ D_{ad}
is identical, except for the notation for the range particle, to the frame for a verb like B>N, discussed earlier.

Next consider the sentence:

6. Kofi ho fono no (Kofi exterior (hab)+disgust him: Kofi is disgusted (with himself))

We may suppose that, as with (1,2), this derives from an underlying

7. Kofi₁ ho fono Kofi₁.

The second mention of Kofi is pronominalised, but, since it derives from an underlying dative, it is not reflexivised.

There is no sentence:

8. *Kofi ho fono ne ho.

Equally the sentence:

9. ne ho fono Kofi

has the sense 'he (some third party) disgusts Kofi' and not 'Kofi is disgusted with himself': reflexivisation is progressive not retrogressive.

It may be remarked that while some verbs, like FONO, may

have nom and dat NPs that are either co-referential (as in (6)), or not, (as in (4)), there are some verbs for which only the co-referential possibility exists. Thus with a verb like HURU:

10. me ho huru me (my exterior (hab)+hot me: I am hot)
there is no sentence like:

11. *ne ho huru me.

Similarly:

12. me ho tutu me (I ache)
me ho teetee me (I feel uncomfortable)
me ho pere me (I am impatient)
ne ho hia no (He is in need)

do not admit non-co-referentiality of the NPs concerned.

In such cases the transitivity frame will clearly need to be marked in the lexicon.

CHAPTER VII: SUMMARY OF RULES

This chapter contains a summary of most of the rules that have been discussed in this work. It will be clear that it does not pretend to be a complete syntax of the language. Since we have not developed our discussion on illocutionary verbs since Chapter II, rules relating to such constructions are not considered further here, and the reader is referred to Chapter II.

1. Composition rules:

- | | | | | |
|----|------------|----|--|--------------------------------|
| 1 | Nucleus | → | Qualifier + Core | |
| 2 | Qualifier | → | {stative} {active} | (negative) |
| 3 | stative | → | {present future perfect optative} | |
| 4 | active | → | {present progressive future perfect preterite optative} | |
| 5 | Core | → | process ergative nominative | {dative locative essive} |
| 6 | process | → | {inchoative action descriptive} | |
| 7 | process | →→ | {directional motion reciprocal} | |
| 8 | ergative | →→ | actor | |
| 9 | actor | →→ | agent | |
| 10 | nominative | → | {passive} {concern} | |
| 11 | concern | →→ | resultative | |

| | | | |
|----|----------|----|------------------------------------|
| 12 | dative | → | {adessive allative ablative} |
| 13 | adessive | →→ | nominative |
| 14 | locative | → | {directional positional} |
| 15 | passive | →→ | joint |
| 16 | ergative | →→ | joint |
| 17 | locative | →→ | joint |

→ is to be understood as 'to be obligatorily developed as'

→→ is to be understood as 'may optionally be further developed as' (cf. Chafe, 1970).

2. Positive and Negative Conditions:

- 1 PC (stative
 present) Q1 (X descriptive Y)_{Core}

Descriptive stative verbs only occur in the continuative form.

- 2 PC (stative
 perfect) Q1 (X inchoative Y)_{Core}

Inchoative stative verbs only occur in the perfect form.

- 3 NC ~ (active
 progressive) Q1 (X descriptive Y)_{Core}

Descriptive active verbs do not occur in the progressive form.

- 4 NC ~ (stative)_{Q1} (X actor Y)_{Core}

A stative transitivity frame cannot contain the case feature actor.

- 5 PC (action X ^{ergative}
 actor Y)_{Core}
 (agent)

Ergative case feature bundles must obligatorily be specified as actor, and optionally as agent in transitivity frames involving action verbs.

- 6 NC ~ (descriptive X actor Y)_{Core}

With a descriptive process, there can be no case feature actor: i.e. the subjects of descriptive verbs may be the initiators (ergative), but are not the actors of the process described.

- 7 NC ~ (descriptive X ergative ^{nominative}_{passive} Y)_{Core}

With a descriptive process, nominative, passive and ergative case feature bundles do not co-occur: i.e. descriptive verbs do not take 'passive objects'.

- 8 PC (X ^{ergative}_(actor) ^{nominative}_{concern} Y)_{Core}

Condition: X and Y do not contain any other case feature bundles.

nominative, concern case feature bundles co-occur with ergative case feature bundles and no others, and do not occur alone.

- 9 PC (X ^{ergative}_{actor} ^{nominative}_{passive} Y)_{Core}
agent

ergative, actor, agent case feature bundles must co-occur with nominative, passive case feature bundles.

- 10 PC (action X resultative Y)_{Core}

resultative objects only occur in sentences with action verbs.

- 11 PC (X joint Y)_{Core}

Condition: X and Y are null
joint is not also locative

non-locative joint case feature bundles only occur in intransitive sentences.

12. PC (reciprocal X joint Y)_{Core}

reciprocal verbs only occur with joint subjects.

- 13 NC ~ (motion X ergative nominative Y)_{Core}

verbs of motion may occur with either ergative or nominative case feature bundles, but not both.

- 14 NC ~ (direction X ergative nominative Y)_{Core}

direction verbs may occur with either ergative or nominative case feature bundles, but not both.

- | | | | | | | | |
|----|----|------------|----|---------------------|-----------------------|---------------------|------|
| 15 | PC | (active) | Q1 | (ergative action | nominative passive | dative ablative) | Core |
| 16 | PC | (active) | Q1 | (ergative action | nominative passive | dative allative) | Core |

ablative and allative datives only occur in three place sentences of the structure specified.

3. Expansion rules:

1. Ergative Agent Expansion rule

| X | process | Y | ergative actor agent | nominative passive | Z |
|--|---------|---|----------------------------|-----------------------|---|
| 1 | 2 | 3 | 4 | 5 | 6 |
| ⇒ 1 | 2 | 3 | 4 | 5 | 6 |
| (action ergative agent actor 5) Core, ag. | | | | | |

Condition: 2 - 5 are dominated by the same core.

By this rule ergative, actor, agent bundles are expanded to produce an agentive core. This handles such sentences as:

Kofi de atadee bi furaa Amma (Kofi take dress a put-on+pret Amma: Kofi put a dress on Amma)

2. Directional Locative expansion rules

2A X (ergative) nominative locative Y
 actor passive directional

 1 2 3 4 5

⇒ 1 2 3 4 (action locative 5
 direction 3 positional) Core, dir.

OR \Rightarrow 1 2 3 4 (action 2 conj 3 locative
direction positional) Core, dir 5

| | | | | | | |
|----|---|-------------------|---|-------------------------|---|-------------------------------------|
| 2B | X | ergative actor | | locative directional | Y | |
| | 1 | 2 | | 3 | 4 | |
| ⇒ | 1 | 2 | 3 | (action direction | 2 | locative positional) Core, dir. |

Conditions: 2,3,4 (in 2A) or 2,3 (in 2B) are dominated by the same core.

In 2B, X or Y does not contain a nominative passive case feature bundle also dominated by the same core as dominates 2,3.

By this rule directional locative case feature bundles are expanded to form directional cores. This handles sentences such as:

Kofi pīree ēboō no kōō bepo no ase (Kofi roll+pret stone the go+pret hill the bottom: Kofi rolled the stone down the hill).

3. Allative Dative expansion rule:

| X | ergative actor | nominative passive | dative allative | Y |
|-----|-------------------|-----------------------|--------------------|---|
| 1 | 2 | 3 | 4 | 5 |
| = 1 | 2 | 3 | 4 | 5 |

(action allative 3 4) Core, all

Condition: 2,3,4 are dominated by same core.

By this rule dative allative case feature bundles are expanded to form allative cores. This handles sentences like:

Kofi gyaa kwadu bi maa me (Kofi reserve+pret bananas some 'give'+pret me: Kofi reserved some bananas for me)

4. Ablative Dative expansion rule:

| X | ergative actor | nominative passive | dative ablative | Y |
|-----|-------------------|-----------------------|--------------------|---|
| 1 | 2 | 3 | 4 | 5 |
| = 1 | 2 | 3 | 4 | 5 |

(action ablative 3 4) Core, abl

Condition: 2,3,4 are dominated by same core.

This rule is parallel to rule 3 above, and handles such sentences as:

Kofi sereē kapre bi firii wān nkyen (Kofi beg+pret penny a come-from+pret their side: Kofi begged a penny from them)

5. Joint expansion rule:

| X | α features joint | Y |
|-----|---------------------|---|
| 1 | 2 | 3 |
| = 1 | 2 | 3 |

(α features conj α features)

This rule expands a case feature bundle marked joint, to a conjunction of two case feature bundles to handle sentences like:

Kofi ne Kwaame rekasa (Kofi and Kwaame prog+talk: Kofi and Kwaame are talking (to each other)).

6. Distribution of Qualifier features rule:

| | | | | |
|-----|-------------------------|---|---------|---|
| X | Qualifier α features | Y | Process | Z |
| 1 | 2 | 3 | 4 | 5 |
| = 1 | ∅ 3 | 4 | | 5 |
| | α features of 2 | | | |

Condition: 2,3,4 are dominated by the same Nucleus.

This rule distributes qualifier features to the verb(s) in the nucleus. It must be ordered after rules 1-5 above since these rules each introduce an additional verb, in the agentive core, directional core etc.; This rule will operate as many times as is necessary. The example sentences in rules 2-4 above show harmony in qualifier features on the main and auxiliary verbs (e.g. piree and koo, both preterite, in 2). The agentive auxiliary, illustrated in (1) is invariable in indicative affirmative forms, i.e. de, as illustrated, but takes the appropriate form of the verb FA in optative and negative indicative sentences. The form de is considered to be derived by a morpho-phonemic rule which is not considered here.

4. Constituent structure rules:

- 1 S → NP + VP
- 2 VP → NP + {VP
 {Vb}}
- 3 NP → {NP + conj + NP } (for joint NPs)
 NP + part (for loc. and abl. dat.)
 S (for agentive core etc.)
 N (+ Det) (to stand for NP Rules
 which are not developed
 further here)
- 4 Vb → Asp (+ Neg) + VS
- 5 Asp → {continulative
 habitual
 progressive
 future
 preterite
 perfect
 optative }

1. An S is generated for every Core containing lexical elements.
2. As many NPs are generated for any S as there are lexicalised case feature bundles in the relevant Core.
3. Locative NPs must be expanded as NP + part or as a place noun; Ablative dative NPs must be expanded as NP + part.

4. Neg is chosen in the expansion of Vb if this is a feature in the relevant process feature bundle.
5. Asp is expanded according to the specification noted in III.5.
6. Features of functional structure are allocated to constituent structure according to the principles outlined in Chapter II.4.4.

5. Transformational Rules

We are only concerned with Cyclic rules in the sense noted in Chapter II.4.4. Under some rules there is a note on the effect of the transformation concerned. Rules A - D and J correspond to rules B - F in II.4.4. and are not further annotated here.

A: Dative, Locative, Essive re-ordering:

| | | | | |
|-------------|----|---|---|-----------------------|
| X | NP | Vb | Y | |
| 1 | 2 | 3 | 4 | \Rightarrow 1 3+2 4 |
| Conditions: | 1 | 1 contains another NP | | |
| | 2 | 2 is <u>dative</u> , <u>locative</u> or <u>essive</u> | | |

B: Nom re-ordering:

| | | | | | |
|-------------|----|----------------------------------|------|---|---------------------------|
| NP | NP | Vb | (NP) | X | |
| 1 | 2 | 3 | 4 | 5 | \Rightarrow 1 3(+4)+2 5 |
| Conditions: | 1 | 1 is <u>ergative</u> | | | |
| | 2 | 3 is <u>nominative</u> | | | |
| | 3 | 4, if selected, is <u>dative</u> | | | |
| | 4 | 5 may be null | | | |

C: Agent Raising:

| | | | | | | |
|-------------|----|---|----|----|---|---------------------------|
| NP | Vb | NP | Vb | NP | X | |
| 1 | 2 | 3 | 4 | 5 | 6 | \Rightarrow 1 2+3+4+5 6 |
| Conditions: | 1 | 1 is <u>ergative</u> | | | | |
| | 2 | 2 is <u>action, agent</u> | | | | |
| | 3 | 3 = 5 and both are <u>nominative</u> | | | | |
| | 4 | 1-3 are dominated by an <u>S</u> which is itself dominated by an <u>NP</u> which is <u>ergative actor agent</u> | | | | |

D: Agent Deletion (optional):

NP Vb NP Vb NP X

1 2 3 4 5 6 \Rightarrow 1 \emptyset \emptyset 4 5 6

Conditions: 1 1 is ergative
 2 2 is action agent
 3 3 = 5 and both are nominative
 4 3 is not a pronoun
 5 6 does not contain a locative

E: Ablative and Allative Dative Raising:

NP Vb NP Vb NP NP

1 2 3 4 5 6 \Rightarrow 1 2+3+4+5+6

Conditions: 1 1 is ergative
 2 3 = 6 and both are nominative
 3 5 is either dative ablative or dative allative
 4 3-5 are dominated by an S which is itself dominated by an NP which is dative ablative or dative allative.

F: Ablative and Allative Dative Embedding (optional):

NP Vb NP Vb NP (part) NP

1 2 3 4 5 6 7 \Rightarrow 1 2 \emptyset \emptyset 5 \emptyset 7

Conditions: 1 1 is ergative
 2 3 = 7 and both are nominative
 3 If 6 is present, then 5 and 6 are dominated by an NP which is dative ablative; if 6 is not present then 5 is dative allative.

It will be noted that the form of these transformations is similar to that of Agent raising (C) and Agent deletion (D). The derivation of a typical sentence, in outline, is as follows:

a. Kofi serɛɛ kapre bi firii wɔn nkyen

b. Kofi serɛɛ wɔn kapre bi

'Kofi begged a penny from them' (cf. VI.4.3(2)).

Functional structure: A: ac E_a N_p D_{ab} (cf. VI.4.3 (16)).

Expanded functional structure:

A: ac E_a N_p D_{ab}(ac E_a N_p)Core, abl

Constituent structure:

Kofi kapre bi (kapre bi won nkyen firii) sere:

Cycle I: Dative reordering:

Kofi kapre bi (kapre bi firii won nkyen) sere:

Cycle II: (i) Dative reordering; Nominative reordering:

Kofi sere: (kapre bi firii won nkyen) kapre bi

(ii) Ablative raising:

Kofi sere: kapre bi firii won nkyen kapre bi

If Ablative embedding takes place we have:

Kofi sere: won kapre bi (= (b) above)

If ablative embedding does not take place the second mention of kapre bi is pronominalised and deleted yielding:

Kofi sere: kapre bi firii won nkyen (= (a) above).

G: Directional Locative raising:

NP Vb (NP) NP Vb NP

1 2 3 4 5 6 \Rightarrow 1 2+3+4+5+6

Conditions: 1 If 3 is present, then 1 is ergative and 3 is nominative, and 4 = 3 or 4 = 1 and 3.

2 If 3 is not present, then 1 is ergative or nominative and 4 = 1

3 6 is locative positional

4 4 - 6 are dominated by an NP which is locative directional

It will be noted that the form of this rule is similar to those applying to Dative (E,F) and Ergative agentive (C,D) constructions.

Condition 1 will be satisfied by structures involving sentences like:

a. Kofi pree ebos no kos bepo no ase (Kofi rolled the stone down the hill) (cf. V.3(9) and (11))

b. Kofi piaa Kwaame twaa abonten no mu (Kofi pushed Kwaame across the street) (cf. V.3 (18) and (20)).

Condition 2 will be satisfied by the structures underlying sentences like:

c. Kofi dware kos mpoano (Kofi swam to the beach) (cf. V.3. (1a) and (7)).

d. ebos no pree kos bepo no ase (The stone rolled down the hill) (cf. V.3. (8)).

The reader is referred to the references in Chapter V for discussion of the relevant senses of the sentences involved. The underlying structures involved may, informally, be represented as:

- a. Kofi pīree ēboō no (ēboō no kōō bepo no ase)
- b. Kofi piaa Kwaame (Kofi ne Kwaame twaa abonten no mu)
- c. Kofi dwaree (Kofi kōō mpoano)
- d. ēboō no pīree (ēboō no kōō bepo no ase).

In each case the NP (or NPs) analysed as 4 will be pronominalised and later deleted.

H: Joint ordering (optional):

NP conj NP
1 2 3 \Rightarrow 3 2 1

Condition: 1-3 are dominated by an NP which is joint.

This rule optionally re-orders two joint NPs (cf. IV.4.3b):

Kofi ne Kwaame rekase
Kwaame ne Kofi rekase (Kofi and Kwaame are talking)

I. Reciprocal verb (optional):

NP conj NP Vb
1 2 3 4 \Rightarrow 1 \emptyset 4 3

Condition: 1 1-3 are dominated by an NP which is joint
2 4 is a reciprocal verb

This rule optionally re-orders the NPs round a reciprocal verb (cf. IV.4.3c). In conjunction with the previous rule it will allow for sentences like:

Kofi ne Kwaame se
Kwaame ne Kofi se (Kofi and Kwaame are alike)
Kofi se Kwaame
Kwaame se Kofi

J. Tree Pruning:

Any node which directly dominates another node which is its sole daughter and which is identically labelled is pruned.

References.

This is a list of the items referred to in the body of this work.

It is not intended as a bibliography of writings on Akan, or of those aspects of linguistic theory covered.

Abbreviations:

| | |
|-------------|---|
| <u>FL</u> | <u>Foundations of Language.</u> |
| <u>JAL</u> | <u>Journal of African Languages.</u> |
| <u>JL</u> | <u>Journal of Linguistics.</u> |
| <u>JWAL</u> | <u>Journal of West African Languages.</u> |
| <u>Lg</u> | <u>Language.</u> |
| <u>LI</u> | <u>Linguistic Inquiry.</u> |
| <u>SAL</u> | <u>Studies in African Linguistics.</u> |

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